The Builder.

No. CCI.

SATURDAY, DECEMBER 12, 1846.

LATELY passing Trinity Church, Paddington, which was consecrated about four months ago, and cost nearly 18,000*l.*, we observed men busily employed in pointing the joints of the parapets, and other portions of the masonry, and so were led to make an examination of the building. A glance inside shewed us that a slip had taken place, especially at the east end, where the main arches on each side of the nave are broken; and that remedial measures had been adopted only just in time to prevent worse mischief,—even if the probability of this be yet removed.

The level of the ground on which the church stands, is a newly made one; and the building is raised on arches at considerable expense, to bring it up from what was thought solid ground. According to the newspaper paragraphs at the time of the consecration, above 2,000*l.* were spent in preparing the foundations.

Nevertheless they have failed—partially, at all events; and, therefore, it would be useful to know what were the measures actually employed, in what respect they proved inefficient, and what remedies have since been employed.

Perhaps the architect himself may think it worth while to give us this information. It is not asked for impertinently, but in the belief that such statements are very valuable.

From the days of Vitruvius upwards, the necessity of a good bottom for a building has been urged by most writers on architecture. Experience shews that reiteration is nevertheless desirable. The foundation is the most important of considerations,—unless a stable one be obtained, all that follows is vain. The provisions for rendering it secure are as much the duty of the architect, as the harmonious arrangement and artistical decoration of the building; and if he neglect the study of this and other branches of construction, he will find every work committed to his charge a source of annoyance and loss; and however brilliant his fancy, and pure his taste, may give up all hopes, under ordinary circumstances, of establishing a lasting reputation as an architect.

We do not make this remark in direct application to the architect of the church above mentioned, who is understood to be an experienced man, and to have given due consideration, as he thought, to the precautions required in this particular case; but are led to it by a cry now being raised, that a knowledge of construction is unnecessary for an architect,—architecture having its province merely *in appearance*. We had thought this injurious doctrine, which has done more to degrade the art in England than any other circumstance, was exploded long ago, and can scarcely persuade ourselves that it will be revived to any extent. The chief object of architecture is utility. We do not build simply for the production of beauty, but for occupation,—for use. Convenience, strength, fitness, are the first requirements in an edifice; decoration should follow, and grow out of these.

Structural propriety is a main element in the production of beauty; all that we most admire in the works of both the classic and medieval times, grew out of the constructional arrangements, by the application of taste and genius. A desire to produce beautiful forms did not lead to the introduction of columns, entablatures, or pediments; of flying buttresses, pinnacles, groined vaults or spires;—but the requirements of the building; and beauty resulted from the skill with which the structural wants were supplied and adorned. New wants and new difficulties led to new inventions and new beauties, which has never been the case where the converse mode has been pursued.

Soane, to whom we lately referred, seldom failed to combat the error in question. Looking to our own notes of his lectures in 1835, we find him saying:—

"A knowledge of construction, which is unfortunately too little regarded, is most essential to the student; the ancients have given proof in their buildings, how highly esteemed and how well understood it was by them. Some modern author has said, that when the architect has conceived the design, all he has to do is to have the building raised as lightly, as cheaply, and as quickly as possible. Nothing can be more false; and had the ancients thought thus, we should not have for our study and admiration those glorious monuments of their skill which remain to us."

Again, he urged,—"By a knowledge of construction, the architect is enabled to direct the artificers, instead of being directed by them, and to ascertain correctly the expense of his design. The duties of an architect require his entire attention: without a perfect knowledge of construction, unlimited command over his pencil, and an acquaintance with the quality and strength of the various materials, the most brilliant invention will be worse than useless, and can but bring dishonour to the architect, and disgrace to the profession."

And then, at the close of the course, he said,—"Students should examine the construction of every building to which they can gain access; by attending even to the defective construction of speculators, they will see errors to be avoided,—they will gain a knowledge of light and shade, and store up new forms. They should read Scamozzi, Vignola, and the best authors, and by thus uniting theory and practice, if they do their duty steadily and resolutely, they would be admired and esteemed when living, and regretted when dead. The cure of defects is part of an architect's duty. The dry rot, a noisome disease, was unknown till lately—what is the cause of it, he asked? A knowledge of this will suggest a remedy. To build a mansion was at one time a work of consideration; the walls were allowed to dry, and the timbers were well seasoned. Now, stone and timber are hurried from the quarry and forest; edifices are erected in a few months, which should have occupied years; damp is shut up in the walls, and thence the dry-rot and other evils. It is necessary the architect should have an acquaintance with these things: he has much more to do than making drawings."

To say that construction is not *architecture* is unnecessary; but it is a main part of it. A man may have a knowledge of construction generally, and yet not be an architect: but no man is entitled to the rank of architect, or, indeed, is likely to obtain it, who is ignorant of construction. The greater includes the less. Further, it may be said, that he who simply understands construction, is nearer to being an architect, than he who can merely make an architectural drawing.

The doctrine which teaches that architecture has its province merely in *appearance*, and would separate design from construction, is an utter fallacy, full of danger.

A CHAT ABOUT KEYNSHAM AND BITTON.

We stopped the other day with our old friend John Britton, at the Keynsham Station, on the Great Western Railway, to pay a flying visit to Bitton Church, Gloucestershire, and found much to interest us. The floor of a room in the station-house is formed of a tesselated Roman pavement, which was discovered at Newton Saint Loe, when excavating for the line. It is 11 or 12 feet square, and represents Orpheus playing on his lyre with a circle of beasts around him, similar to one in Lord Bathurst's Park, at Cirencester, but is not of such good workmanship.

Keynsham* Church has some parts of great beauty, especially the west end of the south aisle, with its stairs' turret, and deserves better treatment than it has received or is promised. The south porch has fallen into ruin, and it was gravely proposed a short time ago, to pull it down as the cheapest way of repairing it! Fortunately, a defender was found, and it is to be hoped he will succeed in inducing the parishioners to restore it.

"We love the ivy-mantled tower,
Rock'd by the storms of passing years;
The grave, whose melancholy flower
Was nourish'd by a martyr's tears.

Long be our Father's temple ours,
Woe to the hand by which it falls;
A thousand spirits watch its towers,
A host of angels guard its walls."

Keynsham Church is remarkable for a perpendicular gothic tower, rebuilt as late as the year 1612, at a cost of 230*l.* The details, as may be expected, are bad, but the general proportions are satisfactory. It has been usually described as of the late perpendicular period, and the writer of the "Church Notes," in Bourne's fine work on the Great Western Railway (Mr. George Clarke), has fallen into the same mistake.

There are several interesting bits of domestic architecture in Keynsham, among which may be mentioned a street front, with a curious bay window of stone supported on two boldly sculptured half-length figures, in costume of early date.

At Saltford, by the way, a short distance from Keynsham, there is an old stone house (now occupied by Mr. Flowers;—we mention this as a guide for those who would seek it), the structure of which is Norman. A floor of oak trees (unplaned), and walls four feet thick explain its long duration. One semi-circular headed window, with zig-zag moulding round it remains, but the greater part of the exterior seems to have beeen *modernized* in the sixteenth century. A seated lion on the apex of the gable; an old door and hinges; a porch with a cross over the gable; a sculptured corbel near it; and a chimney-piece marked 1645, in one of the rooms, are the points which will attract a visiter's attention.

A very short ride from Keynsham brings you to Bitton Church, a fine structure, consisting of nave, chancel, north chapel, and tower. The foundation is Norman, and much of the structure of the church is of that date, but its general character is now perpendicular. The nave has Norman north and south doors (the latter is altered into a window), and the chancel arch has been restored recently, by the present excellent and enthusiastic vicar, the Rev. H. T. Ellacombe, also in the Norman style. The north chapel is a charming example of the transition from early English to decorated, and contains three handsome sedilia and a piscina. About twenty years ago, an incised stone, representing a cross-legged knight, was found on the south side of the nave. Investigation shewed that this was a memorial of Sir Thomas de Button, or Bitton, who died in 1227, and was buried there; and over whose grave a chantrey chapel had been erected in 1299. The stone is now preserved in a vestibule at the north entrance.

The tower of this church is very handsome: it is in three stages, with diagonal buttresses, carrying crocketted pinnacles in each stage.

* St. Keyn's ham.

A series of pinnacles rising from the embattled parapet on all four sides, larger pinnacles at the angles, and a beautiful spiret surmounting a stairs' turret on the north side of the tower (restored in 1842), render the upper part of it exceedingly picturesque. The tower is an excellent piece of masonry, and in good preservation. It can scarcely be considered earlier than the 15th century, notwithstanding that the drip-corbels of the west door are supposed to represent the heads of Edward III. and his queen.*

The view from the churchyard, embracing Stoke and Lansdown, is beautiful; and the vicarage, rebuilt by the present incumbent, who, for many years here quietly placed, seems to have found a chief delight in the restoration and improvement of his church, offers many points of interest. Himself a zealous antiquary, Mr. Ellacombe welcomes all who pursue the same study, or find pleasure in examining the architectural works of our forefathers.

MAGISTRATES AND THE BUILDING ACT.

DIVIDING-WALLS IN WAREHOUSES.

On Friday, Mr. G. Todd, the builder, was charged on an information before Mr. Jardine, at Bow-street, under 7th & 8th Vict. cap. 84, with neglecting to build a party-wall to divide a warehouse he had erected in Oxford-street, containing within the same more than 200,000 cubic feet.

A solicitor who attended to support the information on behalf of Mr. Pownall, the District Surveyor, stated, that the Act came into operation in January, 1845, and its object was to prevent serious casualties from fire, &c. The Act provided, that every warehouse containing with the walls more than 200,000 cubic feet, should be divided by a party wall. The defendant received notice from the district surveyor, soon after the commencement of the works, that he must build a party wall, or he would infringe the Act; but as he still continued to build, the matter was laid before the official referees, who made an award, that the building was constructed contrary to the Act, and that it contained more than 300,000 cubic feet, without any party wall. Upon this the defendant applied to the Commissioners of Woods and Works, for a modification of the rules of the Act affecting his building, but they declined interfering in his favour. Mr. Merrick, for whom the premises were built, occupied them when finished, and carried on the business of a paper-stainer; but as the builder refused to alter the premises, the referees withdrew a temporary license they had granted to Mr. Merrick to carry on his business there; and on his refusing to discontinue it, or build a party wall as directed by the referees, the present proceedings were taken against the builder.

Mr. Prendergast, who appeared for the defendant, took a preliminary objection to the wording of the information, which the magistrate overruled.

Mr. Pownall was then called to give evidence in support of the charge, but the defendant's counsel raised the objection that he was an interested party, inasmuch as he would be entitled, in case of conviction, to claim the expenses of the information, which objection Mr. Jardine held to be good.

Mr. Gosling, his clerk, was then called, and the certificate of the official referees declaring the building to be contrary to the provisions of the Act being put in, he proved the handwriting of the referees and the seal of the registrar; on describing, however, the situation of the premises, there appeared to be a discrepancy between the preliminary notices and information, and the certificate of the official referees; the two former stating that the premises were situate at the back of a street called "Oxford-street," while the last-named document described them as being at the back of a street called "New Oxford-street," or Oxford-street East."

The magistrate regretting that the case was stopped on such a point, as well he might, held the discrepancy to be fatal, and the summons was dismissed. The matter of course will not end here, and expensive litigation will probably be the result. The ruling by Mr. Jardine that a district surveyor cannot be a witness is important.

* Mr. Ellacombe thinks that, like New College, Oxford, it may belong to the 14th century.

THE LIFE OF SIR JOHN SOANE.

The following is the chronological view of Sir John Soane's life, by Mr. G. Bailey, referred to last week:—

Born at Reading, 10th September, 1753; entered the office of Mr. George Dance, 1768; exhibited his first drawing at the fourth exhibition at the Royal Academy, "Front of a nobleman's town-house," 1772; the same year he obtained the silver medal at the R.A for the best drawing of the front of the Banqueting House at Whitehall, 1772; he was an unsuccessful competitor for the gold medal at the R.A., 1774; he gained the gold medal for the best design for a triumphal bridge, 1776; he left London for Italy, 1777; his first publication, entitled, "Designs in Architecture," appeared in 1778; elected member of the Academy of Fine Arts at Parma, and returned to London from Italy, June, 1780; designed and executed extensive alterations and additions to Mulgrave Hall, near Whitby, Yorkshire, for the Earl of Mulgrave—and to Ryston Hall, 1784; a house for the Rev. G. Gooch, Norfolk, 1784; Tendering Hall, in Suffolk, for Admiral Sir Joshua Rowley, 1784; a house at Shottisham, near Norwich, for Robert Fellowes, Esq., 1785-8; Letton Hall, for B. G. Dillingham, Esq., 1785-8; appointed architect and surveyor to the Bank of England, 16th October, 1788; rebuilt Blackfriars-bridge, at Norwich, 1789; designed and executed extensive additions to Chillington, the seat of Mr. Gifford, 1789; a house for the Rev. Charles Collyer, Gunthorpe, 1789; extensive alterations and additions to Bentley Priory, near Stanmore, for the Marquis of Abercorn, 1789-1790; to Skelton Castle, for John Wharton, Esq., 1791; alterations and additions to Norwich Castle, 1788-1794; alterations and additions to Mogger-hanger House, Bedfordshire, the seat of Godfrey Thornton, Esq., 1790-9; appointed Clerk of the Works to St. James's Palace, the two Houses of Parliament, and other public buildings in Westminster, 1791; designed and executed alterations and additions to Barons Court, in Ireland, a seat of the Marquis of Abercorn, 1791-2; to Wimpole, the seat of the Earl of Hardwicke, 1791-3; his own house, No. 12, Lincoln's-Inn-fields, 1792; Buckingham House, in Pall Mall, for the late Marquis of Buckingham, and a town mansion for the Duke of Leeds, in St. James's-square, 1790-4; designed and executed alterations and additions to Sulby Lodge, Northamptonshire, the seat of René Payne, Esq., 1792; published a work, entitled, "Sketches in Architecture," 1793; designed and executed Tyringham Hall, near Newport Pagnel, for Wm. Praed, Esq., 1793-6; a house at Reading, for W. B. Simmonds, Esq., 1794-1802; the entrance gates and lodge in Hyde-park, opposite Great Cumberland-street (since taken down), 1794; a house for the Hon. Mrs. Yorke (near Southampton), 1794; became a member of the Society of Antiquaries, 1795; elected Associate of the Royal Academy, 1795; appointed architect for new buildings and repairs in the royal parks, woods, and forests, July, 1795; designed and executed extensive alterations and additions at Bagden House, for the Earl of Ailesbury, 1795; ditto at Hinton St. George, for Earl Paulett, 1796; designed and executed a house at Reading, for L. Austwick, Esq., 1796; alterations and additions to Holwood House, the seat of the Right Hon. W. Pitt, 1797-99; erected a house in Stratton-street, Piccadilly, for Col. Graham, 1797-8; designed and executed alterations and additions to a house for the Countess of Pembroke, Grosvenor-square, 1797-8; offered himself candidate for the surveyorship of the East-India Company, 1799; Letter to the Earl Spencer, K.G., 1799; designed and executed extensive alterations and additions to a house in St. James's-square, for Samuel Thornton, Esq., 1799-1808; to Aynho, Bucks, the seat of W. R. Cartwright, Esq., 1800-1; designed and executed the Banking-house in Fleet-street, for Messrs. Praeds and Co., 1801; elected Royal Academician, 1802; designed and executed alterations and additions at Albury Park, the seat of Samuel Thornton, Esq., 1802; ditto, at Cricket Lodge, near Chard, the seat of the Viscount Bridport, 1802; designed and executed the obelisk in the market-place at Reading, erected at the expense of E. Simeon, Esq., 1804; built a large house, counting-houses, warehouses, &c., in Fountain-court, Aldermanbury, for W. A. Jackson, Esq., 1804; a villa, for himself, at Ealing, 1804; designed and executed alterations and additions to Port Eliot, St. Germans, Cornwall, the seat of Lord Eliot, afterwards Earl of St. Germans, 1804; at Ramsey Abbey, Huntingdonshire, the seat of W. H. Fellowes, Esq., 1804-1807; to a house at Roehampton, for John Thomson, Esq., 1804-1806; to a house in St. James's-square, for Lord Eliot, and the Earl of St. Germans, 1805-1819; the Gothic Library, at Stowe House, Bucks, 1805-1806; alterations and additions to Macartney House, Blackheath, the seat of the Hon. G. F. Lyttleton, 1806-1807; elected professor of architecture, in the Royal Academy, 1806; erected a new mansion at Mogger-hanger, in Bedfordshire, for Stephen Thornton, Esq., 1806-1811; a monumental tomb, in the churchyard, at Leytonstone, in Essex, for Samuel Bosanquet, Esq., 1807; appointed clerk of the works of the Royal Hospital, at Chelsea, 1807; made designs for the completion of Taymouth Castle, the seat of the Earl of Bredalbane, 1808; for the Royal Academical Institution, at Belfast, 1808; designed and executed a mausoleum, adjoining the house of Mr. Desenfans, in Charlotte-street, Portland-place, 1808; the five new houses, in Princes-street, forming "New Bank Buildings," 1808-1810; the new infirmary, at Chelsea Hospital, 1809; read the first lecture, Royal Academy, 27th March, 1809; repeated the first lecture on the 8th January, 1810; lectures stopped, at the fourth lecture, on the 29th January, 1810; designed and executed alterations and additions to Whitley Abbey, near Coventry, the seat of the Right Hon. Lord Hood, 1810; the entrance to the London Dock Company House, and to the counting-house of Messrs. Thellusson and Co., in Meeting-house Court, Old Jewry, 1811; lectures resumed, 9th of January, 1812; designed and executed a house in Park-lane, for Mr. Robins, 1812; alterations and additions to Everton House, Bedfordshire, the seat of William Astell, Esq., 1812; designed and built his own house, 13, Lincoln's-Inn-fields, 1812; the New Gallery, at Dulwich College, to receive the collection of pictures, bequeathed by Sir Francis Bourgeois, and a mausoleum, wherein are deposited the remains of Sir F. Bourgeois and Mr. and Mrs. Desenfans, 1812; elected Grand Superintendent of Works to the United Fraternity of Freemasons, 1813; designed and executed additions to the Earl of Hardwicke's house in St. James's-square, 1815; appointed one of the attached architects to the Office of Works, 1815; designed and built a farm-house, for Thomas Swinnerton, Esq., at Butterton, in Staffordshire, 1816-1817; designed and executed extensive alterations and additions to the banking-house of Messrs. Grote, Prescott, and Co., in Threadneedle-street, 1818; designed and built the National Debt Redemption and Life Annuities Office, in the Old Jewry, 1818-1819; alterations and additions to Marden Hall, near Hertford, the seat of George Thornton, Esq., 1818; designed and built a house for the Rev. G. Monins, at Ringwould, near Deal, 1813-1815; houses in Regent-street, for Mr. Robins, and others, 1820-1821; the new law courts, at Westminster, between, 1820-1827; designed and superintended the re-building of Wotton House, in Buckinghamshire, the seat of the Marquis of Chandos, 1820-22; chosen a fellow of the Royal Society, 1821; designed and executed Pelwall House, near Market Drayton, for Purney Sillitoe, Esq., 1821; a new church at Walworth, in the parish of St. Mary, Newington, 1822; the new Scala Regia Royal Gallery and Library, in the House of Lords, 1822-1824; Trinity Church, St. Marylebone, 1824; a new chapel in the parish of St. Matthew, Bethnal-green, 1824; designed and erected the new office for the Board of Trade, and the Privy Council offices, 1824-7; additional committee-rooms, House of Lords, 1825; additional committee-rooms and a new library for the House of Commons, 1826; the new grand Masonic Hall, adjoining Freemason's Hall, in Great Queen-street, 1826; Printed for private distribution, "Designs for public and private buildings," 1827; published, a brief statement of the proceedings respecting the new law courts, at Westminster, 1828; designed and executed the New State Paper Office in Duke-street, Westminster, 1829-1833; the ante-room to the Sculpture Gallery of Sir Francis Chantrey, R.A., 1831; received the honour of knighthood from his Majesty King William IV., 21st of September, 1831; printed for private distribution, a "Description of the house and museum on the north side of Lincoln's-Inn-fields," 1832; resigned the appointment of architect and surveyor to the Bank, 16th of October, 1833; Procured an Act of Parliament for settling his museum, library, and works of art in Lincoln's-Inn-fields, for the benefit of the public, 20th April, 1833; presented with impressions in bronze, silver, and gold, of a medal, struck in his honour by the architects of England, March, 1835; received a medal from the Société libre des Beaux Arts at Paris, 1835; elected member of the Academy of Fine Arts at Vienna, 1835; elected consigliere corrispondente of the Academy of Fine Arts at Parma, 1836; elected honorary member of the Société libre des Beaux Arts, at Paris, 9th December, 1836; expired at his house in Lincoln's-Inn Fields, 20th of January, 1837.*

* The following is a list of the more important designs and compositions made by Sir John Soane:—A design for a British senate house, and design for a royal palace, 1777; a design for a castello d'acqua, 1777; a design for a casina, 1778; a design to convert a Roman temple into a casina, 1778; a design for a summer dining-room, for the Bishop of Derry, and various designs for the improvement of his lordship's private residence, at the Downhill, near Armagh, in Ireland, 1779-1779; a design for an ornamental dog-house, 1780; a design for a mausoleum and cenotaph, to the memory of Lord Chatham, 1778; designs in competition for two penitentiary houses, the one to contain 600 males, the other for 300 females, 1781; designs for a building to correspond with

MR. REDGRAVE ON THE SCHOOL OF DESIGN.

TO THE RIGHT HON. LORD JOHN RUSSELL.

My Lord,—As your lordship's attention will be engaged, during the recess, on those great educational measures which your administration has led the country to expect, you will, I hope, pardon my laying before you some observations, which are calculated to improve the efficiency of the schools founded for the improvement of design as applied to manufactures, since it is to be expected that the removal of commercial restrictions must be met by great exertions on the part of the manufacturers—and it is in the application of *design* that manufacturing industry is most deficient, as compared with the advance in other directions; and, since there is reason to believe that the endeavours of her Majesty's Government to assist in supplying that deficiency are *not* the most effectual that might be made even at the existing scale of expense.

There are three stages of instruction in design: the first, the acquisition of *technical* skill, consisting of the power of *imitating* the form and colour of objects, acquired by carefully copying the fine examples of former times, and the works of nature.

The second, the inculcation of a pure taste in design, together *with the exposition of the principles* upon which those fine examples have been composed, and their adaptation to the end for which they were composed; and, including, therefore, the knowledge required to form *original* combinations *from nature*, and to apply them to the new purpose required.

Thirdly. The knowledge of manufacturing processes, with which the masters should be conversant, that they may be able to direct design into the proper channels, and to teach the students to unite beauty and fitness with practicability.

Of these three divisions of education in design, in the schools now open at Somerset House, the first division alone is in any degree effectually taught, the second very imperfectly, while the third is not at all attended to—and yet the masters selected are men well adapted by their acquirements and talent to give effectual instruction to the pupils: it is true they are too few for the requirements of such an educational establishment, but, what is worse, they are cramped by the present constitution of the school, which prevents them from making their talents effectual for the benefit of the pupils, so that the school seems liable to merge into a mere Government Drawing School, from which *creative design* will soon be wholly expelled.

Art has grown up in this country individually, each man actuated by his own spirit, and independently following his own path; and this, opposed as it is to the continental growth of art, in schools adopting the opinions of one master—by some considered its weakness—may, on the contrary, be viewed as its strength, by the originality of aim which it induces. From this cause our artists have an independent self-reliance, which, whilst it gives them great energy in the pursuits they undertake, unfits them for working in subordinate relations, even if it were requisite they should do so under one of great eminence in their own pursuits; yet the foundation of the School of Design is such, that men selected for their talents and acquirements are controlled in the use of them by a *director*, who, however generally competent, must be far less acquainted than they are with that peculiar knowledge which they are required to impart—and whose object it must be, by occasional interference, to assert his own primary authority to which they are bound to submit. This causes the masters either gradually to remit their exertions, *which, even if successful, redound to the credit of the director*, and to content themselves with merely routine instruction; or leads to dissensions which equally impair the efficiency of the school. Permit me here to assure you, my lord, that in these, or any other objections I may make, I am most anxious to be considered as having no personal reference to the present director, but only to the office, which I think a useless one, and that it might well devolve on the secretary, or at least be confined to the *business* apart from the *teaching* in the schools. From this clashing of the offices of director and masters, men of the *highest talent* have already been lost to the schools, and it will, I am convinced, from *personal knowledge** of the working, again produce, if continued, the same result, or that other which I have pointed out above.

This arrangement of the relative offices of director and master, whereby the latter is subordinated, is of itself a great hinderance to the progress of the schools; but Government further retards the energies, and indeed the means of usefulness, of the masters, by the inadequacy of their salaries. I speak principally, at present, as to the evening school, the most important as regards amount of attendance, and as meeting the wants of that large class whose daily engagements prevent their study at other hours. To this school the Government has appointed gentlemen of much ability in their several departments of art, and seems to have supposed that as but an *apparently* small portion of their time is required, a small payment may suffice for their remuneration—forgetting the inroad into that *quiet* which their professional pursuits require, and the lost *energy* which the wearying and constantly recurring duties of teaching, as *at present* demanded of them, induces; forgetting also, that talent, such as is requisite that these schools may be raised to the greatest amount of efficiency, cannot, under present arrangements, be at all repaid by that public estimation of their labours which all men prize, and which ought at least to obtain the appreciation of the Government which employs it, and such *pecuniary* payment as would induce men to devote heart and energy to bring the schools to the greatest state of usefulness, instead of being obliged to consider them a *secondary* object.

I trust, my lord, that you will feel with me, that the intention of these schools is not to educate artists, in the usual acceptation of the word, but ornamental designers; and to do this, the appreciation of talent in design should be high, and the office of professors in these schools should be so upheld, that they may take a scarcely inferior rank to the professors of the higher schools of the Royal Academy, and then there would be less inducement for students in design to turn from a diligent pursuit of industrial art under them, to burthen the higher walks with indifferent artists; but how can this be the case when those artists who are appointed to the office are placed in a situation little, if any, better than mere drawing masters, to teach the common routine of imitation?

This leads me to remark on the efficiency of the system, as regards the inculcation of *principles* of design, the second division in my classification: this must at present be done individually to each student in the course of his drawing lesson. How much better and easier, both to student and master, might this be done, by occasional *lectures*, pointing out to all—

The principles of beauty in composition.

Of preference in the choice of forms.

Of opposition, contrast, and arrangement of colours.

The governing principles of the various styles.

The mode of *imitating* nature, and of applying imitation to the various wants of art in stone, metal, wood, the various textile and fictile fabrics, &c.

The principles of *fitness* in the application of ornament, which is, and has been, almost wholly overlooked.

The ancients deeply studied *fitness* in all their works; but their designs are applied by the moderns without any regard to that *fitness:* hence mural crowns and wreaths of victory decorate the front of a spirit shop; and in the interior of a church (as at Dorney, in Berkshire), we find Lictor's rods coupled with the thyrsus of Bacchus, in a Christian temple: these faults are more apparent in architecture, since that art has become almost wholly one of imitation and precedent, but the incongruities are equally great in many other applications of designs. This alone is an argument against the *long*-continued reference to, and study of, the antique, which from its very beauty becomes an object of idolatry, from the worship of which it is hard to escape. Surely if the Greeks avowed, that NATURE, as in the honeysuckle and ammonite, was their model, we may well return to such a source;—if Sir Christopher Wren studied the structure of a shell, to found on it a new construction for a spire, and Smeaton from the growth of an oak gathered the best form for his enduring light-house—NATURE, teeming with the beautiful, may at least be thought a fit source whence we should derive our ornament, after the *principles* have been studied, by which nature is submitted to art in the models of the great artists who have gone before us.

Lectures on those and other subjects should form an important part of the duties of the professors; while the junior masters, themselves preparing for higher office in the provincial schools, might fitly take the burthen of elementary instruction.

Again, the remuneration for the labours of those whom I would fain look upon as professors rather than mere teachers, precludes their attention to the third division of my arrangement entirely—that is to say, the knowledge of manufacturing processes; to fit them for this, they should be enabled and required to pay occasional yet repeated visits (perhaps during the recesses) to the great seats of manufactures both here and abroad, in order to appreciate their wants in design, and the amount of art which has been, and may be, applied in the improvement of their various manufactures. This I look upon as a very important part of the knowledge required of a professor in the School of Design, as being greatly suggestive, and also as enabling him to direct successfully the attention of the students to, and to advise them in, the best application of their talent.

Thus, with alterations in the position, and perhaps in the number of the masters, and under the new mode of instruction suggested, we might hope that the trammels of mere imitation would be broken, and NATURE, as the true source of ornamental design, more fully insisted on, and then the students called on to adapt ornamental design to purposes and fabrics with which the Greeks and Romans were totally unacquainted, would learn that the *principles of taste only* are to be sought in the antique application of art to the wants of their age, and that while we are content to seek the *principles*, we are not to be fettered by the mere imitation of their application; and the schools, taking their true position, would produce artists capable of original inventions, and would soon supply the wants of the manufacturers with a race of designers able to rival, nay surpass, the tasteful exertions of the foreigner,—thus fulfilling the hopes of the country, and the intentions of her Majesty's government.

Having thus urged upon your lordship's attention regulations as to the masters, I would in the second place, advocate an addition to the school, which I trust would be found of eminent advantage,—the establishment of a biennial exhibition of works of design, open to the public, and to contributions from others as well as from students. To this might be added a few prizes for careful and elaborate drawings from nature of uncultivated plants, and their *display* as *ornament*, and for the best application of ornamental design to useful purposes. I am aware that the Society of Arts are desirous to offer their prizes largely through such an exhibition. There is no doubt, also, that it would interest the public and improve

the Senate-house at Cambridge, containing a museum, picture-gallery, lecture-room, &c., 1791; designs for additions to Caius College, Cambridge, 1792; directed by a committee of the House of Lords to prepare designs to render the House of Lords, and the rooms and offices connected therewith, more commodious, and subsequently to design an entire new House of Lords, 1794; design for entrance and lodge in Hyde-park, from Piccadilly, exhibited 1796; designs for additions to the East-India House, 1796; designs for the National Bank of Ireland, 1799; design for a house at Weston, near Southampton, for W. Moffatt, Esq., 1799; design for a house for Mr. Mansell, 1799; design for additions to Brazen-nose College, at Oxford, 1807; design for alterations and additions to Coombe House, Devonshire, the seat of Reymundo Putt, Esq., 1811; design for alteration and additions to Camolin-park, the seat of Viscount Valentia, 1815; design for a house, proposed to be erected at Butterton, in Staffordshire, for Thomas Swinnerton, Esq., 1816; designs to connect the entrances into Hyde-park and St. James's-park, with a monument to commemorate the splendid victories of Trafalgar and Waterloo, the entire group forming the great western entrance into the metropolis, exhibited, 1816; designs for a new palace, proposed to be erected on Constitution-hill, in the Green-park, exhibited, 1821; designs for a new church, for the parish of St. Marylebone, 1821; designs for an entrance from St. James's-park into Downing-place, Downing-street, and Whitehall, for the entrance of the Board of Trade and Privy Council offices, and for the completion of those offices, and others connected therewith, 1826; designs for a sepulchral church, to be erected on the parade in front of the Horse Guards, as a monument to his late R. H. the Duke of York, 1827; designs for a monument to commemorate the services of his Royal Highness the late Duke of York, as commander-in-chief, submitted to the committee, 1829.

* I attended the Figure Class for one month during the absence of Mr. J. Callcott Horsley.

its taste; that it would be contributed to by artists of eminence, who only occasionally make ornamental art their study; and that it would be resorted to by our manufacturers as purchasers of models and designs. Thus it would be an immense stimulus to emulation and exertion, and help to prevent in the students of the school that craving to come before the public as exhibitors of works of art in other exhibitions, which draws many aside from the true purpose of their education.

Allow me to recapitulate to your lordship the objects which I have urged on your attention in this letter.

First, The independence of the masters, as to their views of the *instruction* to be given in the schools, which implies the uselessness of much of the present duty of the director.

Secondly, The establishment of lectures by the master, treating fully of the *principles* of design, &c. &c.

Thirdly, The better remuneration of masters, with a view to increased efficiency, and to their being enabled to visit the manufacturing districts at home and abroad, to study their wants in ornamental art.

And fourthly, The establishment of an open biennial exhibition, with prizes for original designs, &c.

My chief apology for this intrusion on your lordship must be, that I feel strongly impressed that the present arrangement of the Schools of Design is defective and injudicious, and that promp measures should be taken to improve their condition.

RICHARD REDGRAVE, A.R.A.

ARCHITECTURAL HISTORY.

ON the 23rd ult. Mr. T. H. Sealy, of Bristol, delivered, to the members of the Athenæum in that city, the first of a course of two lectures upon the history of Gothic architecture.

The lecturer commenced by stating that the president of the Athenæum had requested him to deliver a lecture on an architectural subject of great local interest — St. Mary Redcliffe Church; and, as the restoration of that edifice was a matter in which he took a deep interest, and one towards which he would not willingly lose an opportunity of directing the public attention, he had readily consented to do so: and he had thought it well to preface his notice of that splendid building by some general account of the rise and progress of Gothic architecture, with a description of the chief phases it had presented in this country. He should principally confine himself upon that occasion to the latter part of the subject, and on Wednesday evening Redcliffe Church would supply him with material to illustrate much of what he should have to set before them. In tracing the genealogy, so to speak, of Gothic architecture, they were led back to the temples of Luxor and Thebes. The airy filagree of the Gothic-groined roof, supported on thin walls and slight columns, the tower with its light and rich array of buttresses, niches, pinnacles, and battlements, grouped and clustered together—and the graceful and delicate spire, soaring into the air to such a dizzy height, might all be traced back to the enormous walls, unwieldy columns, and ponderous roofs of the Egyptian temple. Though the one may seem to be produced by the easy work of fairy finger, and the other to be raised by the stupendous labours of a Titan race, still it was not difficult to follow the gradations by which the change had been wrought, and to observe the progress of an organic principle which, manifesting its faintest trace in the rock-hewn caverns of Nubia, seemed to exhibit an almost vegetative vitality in the branching stone-work of a Christian cathedral. An ingenious writer, Thomas Hope, had endeavoured to break the connection, by referring Grecian and Egyptian architecture to independent sources. He asserted that the Egyptian buildings were imitated from the rock-temples of Nubia and Abyssinia, and those of Greece from the log buildings of the Scythians, who settled in the woody districts of Greece. But, although in the Greek Doric temples there were evidences of an imitation of wooden structures, still the principles of the composition were precisely those of the prior works of the Egyptians, and belonged not less naturally to construction with stone than with timber—nay, in many respects more so. Besides, on the borders of the Nile they found columns and mouldings closely resembling the Grecian Doric; and, as these stood in connection with buildings known to be more ancient than the earliest Doric temples of Greece, it was certainly more probable that the Greeks derived their architectural notions direct from Egypt, and only introduced such modifications into the practice of their art as were suggested by the application of new materials, or derived from their finer sense of proportion and grace of form, than that two styles, originating from perfectly distinct types and perfectly distinct necessities of construction, should have exhibited the coincidences, both in arrangement and details, which were found between the columnar buildings of ancient Egypt and the temples and villas of the Greeks. Greek architecture, then, arose out of Egyptian, and, in a more distinct and unquestionable manner, Roman arose out of Greek. But, though those formed distinct and defined styles and substyles, one general principle of composition was evident through all. The leading lines in all were horizontal; the principal buildings low in proportion to the extent of ground plan; the perpendicular lines were short and interrupted, and the columns and pilasters, which formed the principal upright lines, did not extend to nearly the whole height of the buildings; but the horizontal lines of the architrave, frieze, and cornice were continued generally unbroken along the whole extent of the façades to which they were applied. The invention of the arch, however, led by degrees to an alteration of the horizontal system, and eventually to the introduction of a totally new principle of architectural composition: not necessarily, indeed, for the Italian, in which the semicircular arch is so freely used, and the Saracenic, in which the pointed and horse-shoe arches prevail, whilst the horizontal principle was somewhat obscured in them, yet seldom exhibited any thing of its opposite.

A great many theories had been proposed in relation to the origin of Gothic architecture, but most of them had been directed to the origin of the Gothic arch, as though that and Gothic architecture were one and the same thing. The Gothic arch existed before the development of the Gothic system of architecture—it existed in the Saracenic and in the Hindoo systems, which exhibited the struggle between wild fancy and arbitrary rules, and differed as widely in their principles of composition from the so-called Gothic of Christian nations, as they did from the architecture of Greece and Egypt. Two favourite notions as to the origin of Gothic architecture were—the first, that it arose from the accidental formation of Gothic arches by interlacing semicircular arches one with another; the other, that it was an imitation in masonry of an avenue of trees. The former would lead them about as far towards the development of Gothic architecture as the invention of letters would towards the formation of an epic poem. Nay, it was perhaps even a mistake to say that the pointed *arch* was so discovered, as at least in the earlier examples of interlacing arches the principle of the pointed arch was not exhibited. The mere form was shewn, but not the arrangement of the stones necessary to give that stability which belonged to the true arch. The second notion might be fanciful and poetical, but it was totally overthrown by what could be proved of the gradual development of Gothic art, which was not the mere invention of one man, but the product of the collective genius and necessities of a race of men. No system of architecture was ever the invention of the individual man, but was rather a work of nature, in which she used mankind as her instruments. The formation of a style of architecture was in almost all cases the work of ages. Grecian architecture, indeed, appeared, like other arts in Greece, to have risen almost suddenly to something like perfection in the age of Pericles; but it was not the less a result of the activity of many minds. One man might have invented the Doric, another the Corinthian capital; but those were deviations in the practice, and involved no change in the principle of the art. Doric, Ionic, Corinthian — the same principle was observable through all. They all evidently belonged to one age, one people. Abundant proof existed in the architectural works of the middle ages to shew that Gothic architecture grew out of classical architecture, by a very gradual process. The first step towards so great a change was the introduction of the arch, which was at first applied to window openings, then to roofings over narrow passages and small apartments, and eventually to covering in large spaces, as in the case of the Pantheon and the basilicas. At first the round-headed openings were the exception, afterwards they became the rule. At first they were used chiefly as ornamental features in the art, eventually they became the most important elements in its constructive system.

In the dark ages which immediately followed the downfall of the Roman empire, architecture, in common with other liberal arts, fell into almost total desuetude. A few Christian temples were reared amid the decaying cities of the empire out of the materials which they supplied, and old columns of various lengths and thicknesses, and of different architectural styles, were ranged together to support a roof within the walls of some Pagan temple. Whatever was known of the art lay then with the monks; and it was remarkable that even at a period when the ornamental arts had almost ceased to be, and civilisation seemed fast waning from the world, constructive skill, involving a large amount of mathematical science, appeared yet to make advances. The huge dome of St. Sophia, at Constantinople, then the seat of art, was erected in the sixth century, and many smaller domes, as well as large vaults, were constructed in various parts, particularly in Lombardy. The Byzantine architecture of this period could scarcely be said to constitute a style, so much was it made up of heterogeneous materials and conflicting principles.

It was natural that where innumerable decaying palaces and temples afforded abundance of material to the builder, ready wrought to smooth surfaces and ornamental forms, that such should be appropriated and put together without regard to any rules of combination to which they were originally subject. Probably the irregularities in the Byzantine and Lombard buildings formed the primary reason why, in the succeeding styles which grew out of them, and which were classed together under the general term Gothic, a perfect regularity of design seemed never to have been aimed at. With the eleventh century commenced a new era in architecture. Something of a more determinate style, one more subject to rule and system, began then to be developed. The Duomo of Pisa, founded in 1015, exhibited more of design and a higher feeling of art than any of the buildings in the Byzantine and Romanesque styles which had preceded it; and a religious fervour, combined with a widely-spreading sense of the beautiful in art, awakened an active spirit for the erection and embellishment of churches and other ecclesiastical buildings. The example set at Pisa was speedily followed in most of the cities of Tuscany, Lombardy, and Romagna; and cathedrals, baptistries, and campanili were erected in imitation of each other. Almost simultaneously, buildings in similar, though not in identically the same styles, arose in Germany, France, the Netherlands, and England. We call them usually Norman in the latter, Romanesque in the former. One principal point in which the latter differed from the Italian, was in their giving less importance to the horizontal lines of the design and more to the perpendicular; in the sharper rise of the roofs, and, consequently, in their gables or pedimental ends. They made, too, a further advance in the upward tendency, from the low temples of Greece to the lofty vaulting and spires of the Gothic cathedral.

After dwelling at some length upon the reasons why Gothic architecture in Italy did not grow up to a perfect system, he continued: They found that in the Romanesque of Italy the horizontal principle prevailed. Small arcades, very similar to those which prevailed in the Norman buildings of England, rose tier over tier on the façades and sides of their buildings, just as they did in some of the old Rhenish churches, and in parts of Norwich Cathedral and Tewkesbury Abbey; but the former were separated into tiers by horizontal cornices, the latter into upright compartments by perpendicular strings and buttresses. It was not until the upward principle was carried, by the introduction of the pointed arch, to its full development, that the incompatibility of the two systems was felt. The Gothic arch was probably introduced into Italy from Ger-

many; but it was scarcely at all practised in that country, though in other parts of Europe it continued almost in exclusive use for nearly another century. He now came to speak of the manner in which the pointed style, to which the term Gothic had been more exclusively applied, arose out of the Byzantine and Romanesque, in regard to which he adopted Hope's view, that pointed architecture arose out of a constructive necessity, and that the æsthetical (or that department of art which related to the beauty of design) was adapted to the mechanical—not the mechanical wrought out to suit the æsthetical. It was from the introduction of pointed arches, as a constructive convenience in the roofs, that they descended into the less important parts of the structure, and became, by degrees, the universal form. The transverse limb of the cross, in the plan of a cathedral, is usually narrower than the longitudinal one; but the roof being of one height over both, it became a problem in construction how to raise the arched roof over the narrower space to an equal height with that over the wider space, commencing, as they both must, from one horizontal base-line; and the pointed arch having been adopted as the better form for the narrow space, the next step was, for the greater harmony in the forms, to use it likewise for the wider opening. This, from an examination of the early churches on the Rhine, Whewell found to have been the course followed prior to the general adoption of the pointed arch in doors, windows, &c. After enlarging upon this branch of his subject, the lecturer referred to the interest now felt in the revival of Gothic architecture, and to the manner in which that which was regarded a century since as the result of wild and undirected fancy, had now been reduced to rule, and distinguished into styles and substyles.

He then proceeded to give a notice of English Gothic architecture. The term Gothic, as applied to the art, was introduced more than a century since as a term of contempt. It had since, in popular parlance, been limited to the style denoted by the pointed arch; but he should use it in a wider sense, and include under it the earlier forms of Saxon and Norman. The term Saxon had been commonly applied to all the earlier English buildings characterised by the use of the semicircular arch; but it was now limited by archæologists to such erections as were prior to the conquest, while those whose dates were between that era and the introduction of the pointed arch were called Norman. True Saxon remains were of very infrequent occurrence—so few, indeed, that they had not data sufficient to deduce from them any definite rules of style. As far as the scanty materials enable us to judge, Saxon buildings were characterised by great simplicity. Few ornamental mouldings were used, although rude sculpture was probably introduced — the windows were small, and in church towers two frequently occurred together divided by a sort of baluster. Triangular headed openings were sometimes used in lieu of arches. Alternate long and short quoins at the external angles of walls, and a particular distribution of stones or Roman bricks, called herring-bone work, were among the most readily distinguishable characteristics of the style, but must not be too much depended on. In the Norman style all the large arches and most of the small ones were simple segments of circles—generally semicircles, sometimes parts of a circle less than a semicircle, and occasionally, but rarely, parts greater than a semicircle. The last are called horse-shoe arches. Very commonly in large buildings, and not unfrequently even in small churches, the principal arches are very highly enriched. When such was the case, they consisted generally of several concentric portions placed one within another, the arch stones of each being ornamented in a manner easily distinguishable from later styles. In pointed architecture the mouldings take the direction of the members to which they are applied—in a pillar perpendicular, in a cornice or capital horizontal, in an arch following the curve,—and although they are susceptible of some sculptural enrichment, as the toothed in early English, the ball flower in the decorated, square flower in the perpendicular, and running foliage in all, those were not looked upon as parts of the mouldings, but merely as applied ornaments. In Norman works the embellishment was regarded as forming in itself the moulding, and it might but partially follow the members.

Mr. Sealy enlarged on the characteristic ornaments of the Norman style, which he illustrated by a reference to drawings. The Norman style was marked by a rude and massive character, the walls being of great thickness, the buttresses of small projection, the vaultings plain and heavy, the piers short and massive, the windows small and not numerous. Norman architecture prevailed in England for about a century and a quarter. The plainest and heaviest fabrics may usually be taken as belonging to its first period. Gradually the buildings became lighter, loftier, and more ornate. The pointed arch was introduced before the characteristic features of this style were lost, and they not unfrequently found pointed arches ornamented with chevron and other Norman mouldings, or mixed and alternating with rounded arches. * * * Towards the close of the twelfth century a great change came over the spirit of architecture. The gradations by which this change was accomplished were more obvious in continental buildings; but in this country a new style sprung up, and though its movement may be traced, it reached to a high degree of development with great rapidity. The pointed arch entirely superseded the segmental forms—the characteristic carvings of the Norman were again sparingly used, and then altogether abandoned. The mouldings became more complicated; enrichments were used in the hollow ones only, and consisted sometimes of foliage and figures, but more commonly of an ornament called the "toothed ornament." After pointing out the more minute characters of the change—as the enlarged use of foliaceous embellishments, which probably never attained to greater perfection than in the thirteenth century, he proceeded—In the first examples of the new style the most frequent form of window-arch was the lancet; afterwards they were more commonly equilateral, and sometimes obtuse or depressed. Flat segments were not unfrequent over doors. In the early English style, which prevailed throughout the thirteenth century, the windows were not of that complex structure which prevailed in the next century, and which was carried to an excess in the fifteenth. They consisted of single openings, like Norman windows, though they were frequently set together in groups of three, four, and five, and sometimes of even seven or nine. Foliations in the window heads were not used till the end of the style, and then but sparingly. The western doors of large churches were frequently double and divided by a shaft, while the tympanum above had a quatrefoil or other panel, which probably preceded the introduction of mullions in windows. The piers of this style retained little of the massive character of the Norman. Towers were carried to great height (though in the Norman style they were often of considerable elevation), and the spire was added. Groined roofs were frequent, and exhibited a more complete arrangement of the vaulting ribs than had been the case in the preceding age, though simple as compared with those constructed in the two following centuries, and of which such fine examples occur in St. Mary Redcliffe Church.

After referring to a magnificent specimen of the style of which he had been speaking, (Salisbury Cathedral), the lecturer proceeded. At the commencement of the fourteenth century, the art was showing symptoms of a fresh transition. The practice of including several windows under one drip became general, and the windows were made to stand recessed in the wall. The arched space was frequently pierced with quatrefoiled or trefoiled openings, and ultimately the portions of wall dividing the windows were reduced, and they became mullions; so that what had been separate windows became but compartments of one large window, the head of which was filled up with geometrical tracery. Foliations to the windows, frequently terminating in an ornament called "a cusp," became universal, and the decorated window was formed. The forms of the piers, mouldings, doors, porches, &c., underwent a change; the groinings also became more elaborate, the buttresses more ornate, the foliage was wrought into more definite forms, and assumed a sharpness of outline. The commencement of this new style was observable in some parts of Salisbury Cathedral. York presented some of the finest examples, particularly at its western end; and, indeed, most cathedrals had portions of this period, to which the greater part of Bristol Cathedral was to be referred. From the great profusion of its ornamental sculpture, the style of the fourteenth century had been called the decorated. Like other styles, it had its local varieties, and underwent some changes during its continuance. The most marked of these was the substitution of what was called "flowing tracery" for the geometrical tracery in the windows. The west window of York was a beautiful and elaborate example.

> "All that's bright must fade,
> The brightest still the fleetest;"

and the decorated, which was the most beautiful and perfect of all the styles of gothic architecture, had the shortest duration. It prevailed little more than 70 years, and then gave way, by rather rapid changes, to the perpendicular, which took its name from the direction of the window-tracery and panelling, which latter was lavishly used in canopies, screens, and even over the internal surface of walls. The groinings now became more complicated, and that wonderfully elaborate form of roof, called fan-tracery, was introduced. A greater sameness prevailed in the mouldings, in the form of the piers, and in the sculptural enrichments. Among the latter the eternal vine-foliage prevailed, as though it had been cast in moulds. Perpendicular or florid architecture, with all its faults, possessed many and great beauties, and it was not till late in the reign of Henry VIII. that the complete and general debasement of Gothic art began. The buildings erected during the succeeding century, where they displayed any of the Gothic character at all, exhibited it so reft of its original beauty, as to have earned the classification, "the debased English" style.

NOTE FROM LIVERPOOL.

Holy Trinity Church, say the *Liverpool Standard*, is now drawing towards completion; the spire already forming a prominent object in the landscape by which it is surrounded. It is in the decorated style of Edward III.; of red freestone; with windows chiefly of two lights, and somewhat contracted in dimensions, with heavy mullions and tracery of stone. In the pointed arches, the tracery is filled in with apostolic heads, and in the transept windows, with emblems of the evangelists. An oak-leaf and acorn border, executed in the primary colours, runs round all the windows. The benches are fitted up with Honduras mahogany, having sloping backs, and terminating with ornamental ends, and without distinction between the free and the appropriated portion of the 800 kneelings provided. The chancel vista is extensive, and the roof is lofty: the architect is Mr. John Hay, of Liverpool. Designs for the three chancel windows are said to have been received from various quarters, those selected being by Mr. James Ballantyne. The windows were glazed by Mr. James Forrest of the Old Haymarket. This church is expected to open next month.——In the council, lately, it was stated by the Courts of law and St. George's Hall Committee, that had not the intention of enriching the pediment arisen from accidental circumstances, it would at the first have been thrown open to public competition, and that as many other parts of the building would require similar enrichments, an opportunity would be afforded to the artists of Liverpool and other places, of competing for the supply of the requisite plans and designs.——The Gardens' Committee have prepared a code of rules, under which the Botanic Gardens for the future will be open to the public daily, Sunday included, and the Conservatory once a month.——The talk about the want of water to flush the sewers and drains, says the *Mail*, has again brought out the oft-repeated suggestion to raise a sufficient supply by steam-engine from the river, and force it into reservoirs for the purpose. These might also be used as swimming baths, thus restoring to the poor the right of salt-water bathing, taken away by the formation of the docks.

Improvements at Yeovil.—A new market-house, town-hall, and small-debts court, are shortly to be erected at here.

KILPECK CHURCH, HEREFORDSHIRE.

KILPECK CHURCH, HEREFORDSHIRE.

This exceedingly interesting building is distant from Hereford about eight miles, in a fertile and beautiful part of the county, on the borders of Wales, and which in earlier times was considered as a part of that country. Its history is brief, and Mr. Lewis, who has published an illustrated quarto volume on the subject, gives us the earliest piece of legitimate history connected with it, when he says "in 1134 the present church (dedicated to St. David), along with the chapel of St. Mary, in the castle,* and all right and possessions appertaining to them, were given to the Abbey of Gloucester, by Hugh, son of William Fitz Norman, lord of Kilpeck Castle. It is very probable that this baron had built the church. Either he or the Abbey of Gloucester established here a small cell or priory, dependent on the larger house. In the time of Thomas Spofford, Bishop of Hereford (1422 to 1428), the dependent cell is said to have been united to the abbey. On the dissolution of monasteries by Henry VIII., the site of the Priory of Kilpeck was sold to Baldwin Treville, from whom it descended, either by purchase or heirship, to the Booths, and then to the Clives, in which last family it still remains."

The interest of this church, as an early example of architecture was pointed out by King, in his *Munimenta Antiqua*, 1805, vol. iv., p. 96, but he does not do more than direct attention to it, and it was neglected, owing probably to its secluded situation, in an unfrequented part of the country, until the publication of a view and account in the *Gentleman's Magazine* for 1833, by Mr. T/L. Parker, after which Mr. Lewis's volume, and the notice of its very curious sculptures, given in the *Archæologia*, again brought it into notice.

The church is small, measuring 66 feet by 26, and bears a very strong resemblance in design, to that at Barfreston, Kent. It consists of a nave and chancel, the apse lighted by three deeply splayed windows. The chancel arch is elaborately sculptured with figures and foliage. The north door is also richly ornamented in the same way, the pillar on the left side having the knights sculptured upon it, which formed the subject of a paper by Mr. Gage Rokewode in the *Archæologia*, vol. 30. This door, which is partially concealed in our view by the comparatively modern wooden porch, is of most remarkable and elaborate workmanship, and in a fine state of preservation. Indeed, the uninjured state of the external ornaments of this very remarkable church is surprising, and the singular projecting heads seen upon the western wall are quite perfect, and very strikingly peculiar in effect. The flat buttresses of the church, and the highly enriched corbel table, which runs entirely round it, abound in variety and boldness of execution. The original windows are round-headed. That in the western wall has the pillars and moulding elaborately sculptured with interlaced scroll-work, the capitals being lion's heads. This church, as it possesses its wall entire according to its original design, is more interesting than that at Barfreston, the western wall having there been destroyed, and that portion of the building rebuilt in a more modern taste. It is altogether a singularly perfect specimen of a highly decorated village church in the twelfth century. It is in contemplation to repair and restore it where necessary. It is however to be hoped, that as it presents so little of decay and ruin, that the restorations may be done with the slightest possible change in its venerable features. The modernization of Barfreston has destroyed much of its interest, and gives the idea of a new building on an old model. F. W. F.

* "The Castle of Kilpeck, by Herebenfeld, now longeth to the Earl of Ormond; sum ruines of the walls yet stand. The Priory stood from the Castle a quarter of a mile." — *Leland. Itinerary.*

CARVED OAK DOORS IN READING.

The annexed is a drawing of a carved oak door, situate in Gun-street, Reading. The building to which it belongs is called "The Oracle," a place formerly used by clothiers.

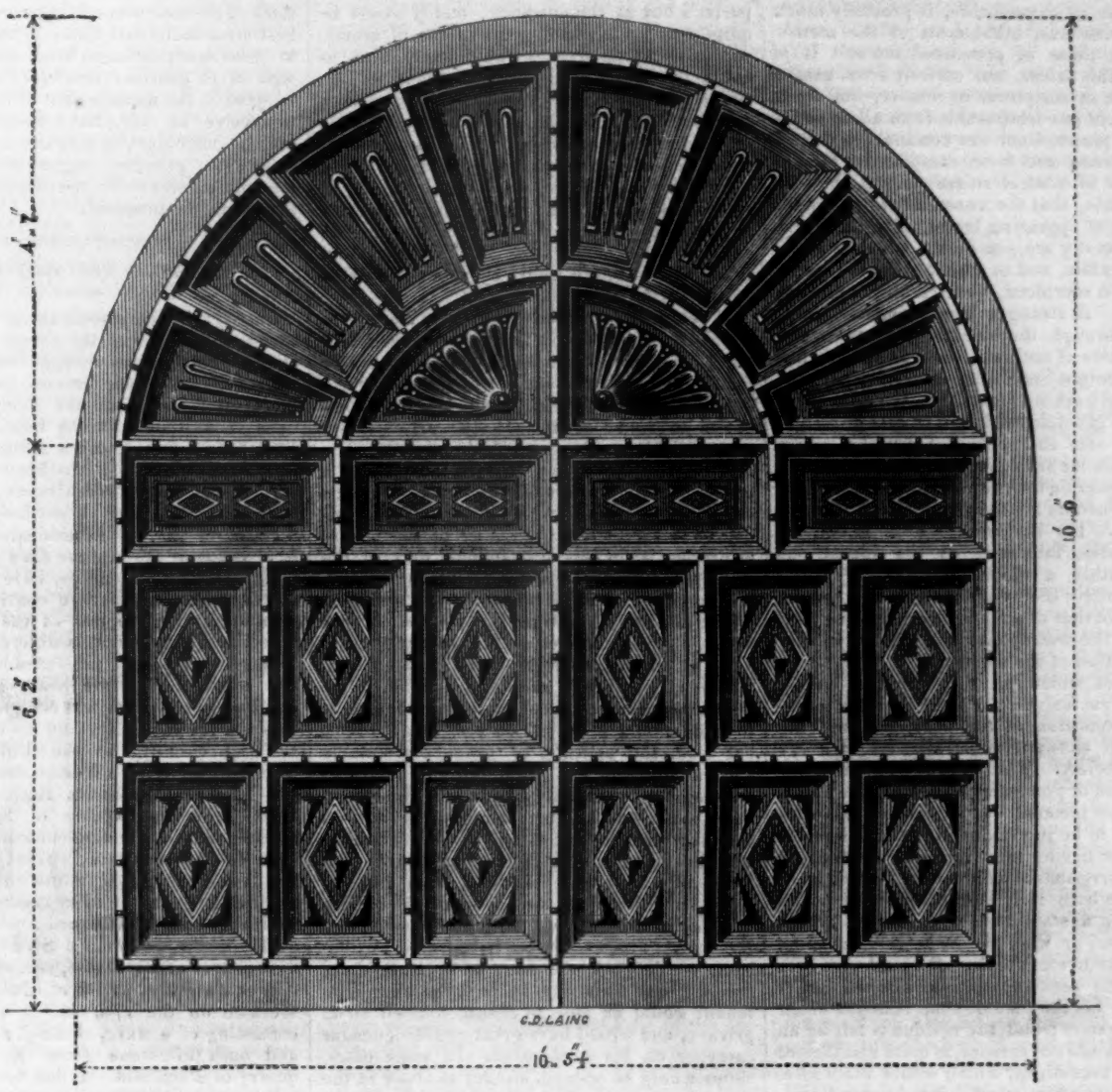
The entrance to the court-yard or offices is through a handsome stone gateway, supported by two elegant composite columns much worn by the hand of time and the neglect of the Reading folks, who, I regret to say, cannot fully appreciate the interest which this gateway possesses. I sincerely trust before long, some one will be found to persuade the townspeople to restore it.

On the cross panels of the doors are the initials "J. K." and the date 1628. The scale of the drawing is half an inch to a foot.

13, Hart-street, Bloomsbury. G. T. J.

*** *The Oracle, Reading.*— In 1624 Mr. John Kendrick, a successful woollen merchant, bequeathed the sum of 7,500*l.* to Reading, his birth-place, for the erection of a house in which the poor might be employed, and to provide materials for carrying on the clothing trade, working in wool, and preparing materials for dyeing. With this sum the corporation pur-

OAK DOOR, FROM THE ORACLE, AT READING.



chased land, and erected the structure, now known as "The Oracle," which has been referred to by our correspondent.

The origin of the name is doubtful. Coates, one of the historians of Reading, says it did not appertain to the buildings previously on the site, but was given to the edifice erected by the corporation under Kendrick's will, and might have had "its origin from the handsome entrance or portico, in Minster-street; such an entrance or portico being frequently termed an oriel, an appellation which might easily be corrupted to Oracle." Another writer, Mr. Man, doubts the truth of this derivation, and considers it had its name from the principal ingredient used in dyeing, "a drug originally brought from the Canary Islands, called Orchal, but imported into this country from Italy, where it was called *Oricello*, in Latin *Oricola;* from either of which I presume the Oracle might derive its present name." Large quantities were stored up in some part of the establishment, which might be called the Orchal House, and from the frequent use made of the term, be afterwards applied to the whole of the building.

We are inclined to agree with the latter. In the middle ages the term Oriel (Oryole and Oryall) was applied differently from what it is now. Mr. Hamper shews six applications of it (*Archæologia*, Vol. XXIII.) namely, 1, to a penthouse; 2, a porch attached to any edifice; 3, a gatehouse; 4, an upper story; 5, a loft; and 6, a minstrels' gallery. The first of these (a penthouse, or covered way) he thinks the original application of the term, and conjectures that it may have been derived from the Saxon,—*over-hele* (*o'er-hele*) being an established English word, signifying to cover over.*

At the date of the erection of the building in question, however, the word oriel appears to have been applied solely, as now, to a large bay, or projecting window, and would certainly not have been applied to such a gateway as that at the Oracle.

The condition of this gateway is disgraceful to the corporation; it is to be hoped the funds appertaining to the charity are better looked after than the buildings are.

Some remains of Tudor work may be observed in parts of the establishment, serving to shew either that the buildings on the ground, when the corporation bought it, were not wholly destroyed, or that portions were worked in. One apartment, at a short distance from the gateway, now used for the infant school, has a handsome stone chimney-piece of Tudor character, with carved paterae in the cornice, and a strawberry-leaf termination. The room is otherwise fitted up with handsome wood-work of about the same date as the gates here given.

Respecting these we may remark, that they closely resemble the pair of gates in the façade of Northumberland House, Strand.

Students who possess the whole of our journal, will find advantage in comparing the various examples of parts of buildings which appear from time to time in our pages, and tracing the alterations which were made at different dates. In addition to what we may consider the beauty or interest of particular examples, we are influenced in our selection by a desire to furnish those who preserve THE BUILDER, with a useful series, illustrative of architectural history and progress.

* HEIL, to cover a building with tiles, or other materials. Piers Plowman notices the cloister of a convent as "*yhyled* with lede."—*Britton's Architectural Dictionary.*

YORK CATHEDRAL.—We are told that Mr. Hudson, as Lord Mayor of York, has proposed a scheme for throwing open the west end of this noble cathedral, to be accomplished by public subscription, and heads the list himself with 500*l.*

RAFFAELLE'S APPOINTMENT AS ARCHITECT OF ST. PETER'S, AT ROME.

THE following is a translation of the (Latin) brief of Leo X., by which Raffaelle was appointed architect of the Roman cathedral.*

TO RAFFAELLE URBINATE.

As, besides the art of painting, in which you are known to excel all men—the architect *Bramante* has thought you of a similar qualification in the art of construction; so much so, that on his death-bed he has declared, that to you the building of the Roman temple of the Prince of the Apostles, by him begun, could be entirely intrusted; and as you have proved to us, by the model of the work, and all other explanation demanded of you, given in a learned and abundant manner;—We, to whom nothing is a more ancient care, than that this sanctuary should be as well most magnificently, as most quickly constructed; We make you the master of this work, with the stipend of three hundred gold coins, which shall be provided for you by the managers of those sums, which are yearly assessed, and reported to *us* for the construction of this sanctuary; and I command them to pay to you this salary in equal portions, in time due, if you request so, even without delay, by the single month. You, however, we exhort, that you may undertake the care of this office in the manner, that you will pay due attention in its execution, as well for your own consideration and name—of which, moreover, you have to lay a good foundation in your youthful years—as of our hopes and fatherly benevolence to you; as the dignity and celebrity of the sanctuary itself, which throughout the world has been always considered the largest and most holy—and of the piety which is due from us (all) to the very Prince of Apostles.

Given on the Cal. of Aug. Year Two. Rome.

* Pet. Bembo, Epistol. Leonis X., P. M. Lugdun, 1538, 8vo., p. 192.

SUGGESTIONS FOR AN IMPROVED SYSTEM IN THE ARRANGEMENT OF RESIDENCES FOR DIFFERENT CLASSES.

The proportion which house-rent bears to other items of expenditure, is probably much greater with most inhabitants of the metropolis than those of provincial towns. It is true that this arises, not entirely from causes which it is in our power to remove, but from those which are inseparable from all densely-populated places, from the continual influx of new residents, and from competition for the advantages of central situations. And it is also probable, that the constant desire, which many feel, of appearing better off in the world than they really are,—a desire which is often so contemptible, and to which every real comfort of life is sacrificed,—contributes to prevent alteration. A stranger from a country town, walking through the streets of London, and seeing houses of nothing less than four or five stories in height, naturally wonders where the poor, or the working population, live. He turns out of the great arteries into streets of second and third rate character, but still the houses are on a similar scale, such as he would hardly consider suitable for those, who possess only a moderate income from the source of a trade or profession. He has always seen streets of small houses, inhabited by the industrious classes, within a moderate distance of the localities where their employments lay; but for any thing of that description he may long look in vain in the metropolis, and will not readily find a solution of the mystery.

The evils which result from houses having been built exclusively for the rich, affect painfully the condition of the poor, and are the occasion of constant embarassment in every class of society. The industrious workingman, instead of possessing a comfortable home, suited to his income, but so situated and constructed as to be innoxious to the health of his children, or having those advantages which, in any well-regulated community, should be common to both rich and poor, is compelled to live over a stable, or to crowd his family into a cellar, or a single back room. In all classes, whether the tenement be a house or a lodging, the rent-day exacts a much larger proportion of the income than it might under a proper system; and the residue is felt by an immense number of persons, as quite insufficient for those necessities, which would otherwise, and ought to claim a less stinted expenditure. Now, we believe it is perfectly feasible to effect a very important saving in the matter of rent, and also materially to add to the comfort of all classes, and that, too, without diminishing the profits of landlords and others, who might be supposed to be interested in keeping things as they at present are.

In London, houses are often ill-adapted even for residents whose income is sufficient; but provision for the different kinds of accommodation required by other persons, has clearly not been attempted. The lofty houses and the appearance of wealth every where, may impose upon the stranger, but the published reports of societies and commissions, and far more that deeper misery, which never meets the public eye, would at once urge the necessity for a different plan. That change then, simply is, to build residences adapted to the different wants of every class.

Though the notions of some people might, for the present, suffer a shock, all would soon become reconciled to a system having less pretension, perhaps, but bringing to most persons conveniences which they could hardly fail to estimate. As would observe a witty writer, who has done something to moderate the excessive passion for "an appearance" in "the world" he satirizes, the present system imposes upon no one who can look at all within: if I take a four-storied house, and live in the back parlour or the kitchen, who is deceived by it, except a countryman: if in a second-floor,—

> "Content with little, I can piddle here
> On broccoli and mutton round the year:"

why should I fear all the world knowing it?

If the value of land in the metropolis would prevent a sufficient return of rent from houses of less than four or five stories, the continental system of living in flats could be resorted to. With this arrangement there are no inconveniences which can be compared with those already in existence; and the convenience and comfort which is experienced in rooms *en suite* would amply compensate for the trouble of ascent, even to a residence at as high a level, as many of those in the houses of Paris. There would be a general staircase, and a porter's box at the entrance; and it would be quite possible to contrive the means of access, so that as much privacy would be ensured as could be desired. Every advantage of the single residence, as regards drainage, and even supply of water, could be given in each suite of the building proposed; whilst a little consideration will show, that a great saving might be effected in construction. For example, in *three* houses, the same number of staircases is required, but in a large building for an equal number of persons, probably not more than half the space would be so appropriated by the single staircase.

It is true that actually this is the manner in which most houses in London are occupied; but as they have been built each for a single family, the inconveniences are great, and can only be understood by those who are compelled to suffer them. In the arrangement proposed, the staircase would be of large size, and expressly contrived for its purpose of a public thoroughfare, whilst the *suites* of rooms opening out from it would be complete residences in themselves. In some of the houses at present let in sets of chambers, part of the advantages proposed are already to be had, but they are none of them adapted for families, whilst not having been devised for the purpose which they serve, they cannot be expected to have all the conveniences here contemplated. The small number of such places adapted for business purposes is also a great impediment to professional men, not only as regards rent, but from the *difficulty of procuring* suitable accommodation; and if a number of buildings were erected, especially adapted for the object, these alone would bring in a good interest on the investment.—But it is probable that many would prefer the plan of building outside galleries of access to each floor, with external stairs, mentioned in the report of the Health of Towns Commission, and again suggested recently. The advantages here would be, that each residence would have a separate door, opening out from the gallery, so that each tenant would be able to ensure himself strict privacy, and would have great convenience for carrying on his occupation. In some cases, shops would be opened, similar to those in the ground story, as the galleries would be, in many cases, of considerable extent, and would be frequented by a sufficient number of residents and strangers, to ensure profit in certain kinds of business. Still, though all persons would have the opportunity of passing along them, they would not be crowded, and might perhaps afford a play-ground for children,—a want much felt by many poor families.* We believe that such residences might be built with little sacrifice of light in the rooms, and whole streets might be so designed that architectural effect would be improved.

It is to be regretted that, in all public improvements, and the opening of new lines of streets, the comfort of the poor and industrious classes is not considered, as well as the architectural improvement of the town. It is found that these great streets have not been formed without an increase of misery amongst the poor, who were previously the occupiers of the ground, and it seems never to have occurred to any one, that there was a most favourable opportunity for building dwellings on some principle such as we have before recommended. It is to be hoped that no future occasion will be allowed to pass, of doing a simple act of justice to those who are at present suffering from the results of late "improvements." Like certain attempts at ventilation, which perhaps attain their object, but at the expense of health, these streets have purified bad neighbourhoods, shortened distances, and added to the appearance of the town, to inflict upon those who were already sufficiently wretched, evils immeasurably greater than any which the promoters have removed from themselves.

The principle we wish to enforce, then, is that of providing, under various modifications, for the wants of *each* class—so that any individual may domicile himself in a convenient neighbourhood, at a greatly reduced expense—instead of building only for one description of want, and one class of tenants. To effect some of these objects—in the manner which may best meet individual tastes, it may be desirable to erect many different kinds of buildings, as well as to consider carefully the system to be adopted in the management of those which are to receive an associated community, and it may be our object, in a future number, to consider some practical suggestions, having immediate reference to the development of this feature in the proposal.

* We take this opportunity of remarking upon the increasing want of public play-grounds. Accidents are continually occurring in the public streets, and many children are enticed away from home by the companions they meet. On the other hand, the evil of the want of exercise is great. A large increase in the number of infant schools is much to be desired.

NOTES IN THE PROVINCES.

Thirty infant schools are to be established by an association of the clergy and others at Birmingham, at an average expense of 300*l.* from the local fund, besides grants from the National Society and the Privy Council, for each room that is to be built. Thirty sites have been selected, and a moiety of the necessary funds (4,000*l.*) has been already subscribed.——Holy Cross Church, Pershore, has been enlarged and beautified, or at least divested of the old beautification, whitewash, &c. Some of the massive dark granite pillars, which ran up the aisles, have been thus restored to their primitive contrast and relief, compared with the rest of the interior, and give the whole edifice a different aspect from what it previously presented. —— On Friday week, during the heavy gale, the spire of Tregaron Church was completely blown off. ——On the same day, and by the same cause, the tall chimney at the Lifford Chemical Works, near King's Norton, was blown down. ——St. James's Church, Bath, is about to be restored, at an expense of 2,000*l.*, by the Rector, aided by private contributions. It will have an *Italian* tower, 150 feet in height.—— On Wednesday week, a fifth church out of the ten to be erected at Manchester was founded in Butler-street, Bradford-road. It is to be of large size, and named St. Philips.——The new chapel of St. James, erected by subscription at Fairburn, parish of Ledsham, and consecrated on the 17th ult., is a plain edifice, consisting of a nave, chancel, and south aisle, and built of stone from the neighbouring quarry of Peckfield. It has two stained-glass windows, by Ward, of London; and a third, by Wailes, of Newcastle, is shortly to be added.——The fund for the restoration of the parish church of Scarborough has reached 2,400*l.*, and steadily increases. The committee propose to limit the expenditure to 3,500*l.* Upwards of forty applications for instructions have been received from architects in all parts of the country. The works are to be confined to the area of the existing walls. All the galleries are to be removed, though none of the usual amount of accommodation will be sacrificed. The windows are to be restored after the best architectural remains of the church. The plans are to be sent in not later than 1st Feb. next.——The ancient grievance of exorbitant expectation, if not equally exhorbitant demand, of payment to domestics for the exhibition of Holyrood Palace at Edinburgh, which has prevented many a respectable citizen of Edinburgh itself, as well as many of its occasional visiters, from witnessing the remains of its ancient royalty there and elsewhere preserved, is still persisted in, although complaints have frequently been made to the Duke of Hamilton, the hereditary keeper, of the existence and the hardship of such a grievance. It is even "confidently asserted, in this city," says the *Edinburgh Register*, "that an offer was made to the housekeeper—not the duke but his domestic—to farm the exhibition of the palace at an annual rent." The municipal authorities have found it advisable to pass a resolution expressive of their opinion that the payment of 1s. by each party, not exceeding six, to each exhibitor, is adequate remuneration.——It is said that the corners of mouldings and pieces of corbel heads in several of the galleries of the Scott Monument at Edinburgh have been chipped off; while letters have been rudely carved into the stone in various parts of the building!——It has been resolved, by the Northern Light-house Board, to erect five new lighthouses; one upon the Island of Sanna, off the Mull of Kintyre, to

lead through the dangerous navigation of that passage to the Frith of Clyde; one upon the Island of Devaar, to open up Campbeltown Loch as a harbour of refuge; one in Lochindaal, Islay, to open it up as a harbour of refuge; one in Kyle-Akin, Skye, as a guide through that inner sound; and one on the Island of Græmsay, in Hoy Sound, to open up the important harbour of refuge at Stromness.——The expenditure of the Irish Board of Works for October and November has been 442,150*l.* 2s. 1d. The number of men employed on 28th November was 273,023.——A castellated tower, designed by Mr. Clarke of Bristol, is to be erected at Guernsey, to commemorate the rare occurrence of the landing of the sovereign, and to serve as a telegraph station for Alderney, and as a look-out, says a contemporary, for royal and other flags.

DUTY OF EMPLOYER AND EMPLOYED.

Sir,—I should much like to see your instructive paper the medium of inculcating a closer connection between the two classes, employers and employed, of our metropolis; and surely your Christian readers, who are looking at this world merely as the wilderness of their pilgrimage, would not willingly, though many do inadvertently, lay such a stress on the minor differences of station in this life, as to treat their poorer brethren like members of another species. Every principal ought to take all possible pains to become acquainted with the condition of all under him; and then, both by precept, kindly tendered, and example, modestly exhibited, inculcate a moral and religious life. This knowledge of the circumstances of his workmen would often enable a master, at a very small sacrifice to himself, to render them, on any trying occasions, such assistance as would very much alleviate the troubles incidental to poverty, even when combined with industry. However he may conceal the fact from himself, every master who does not strictly perform his duty towards all his dependents, will find hereafter that he is responsible for his neglect. I would not be misunderstood as encouraging a feeling of universal equality; on the contrary, I would have every one strive cheerfully to fulfil the duties of the station in which it has pleased God to place him; but I know from experience that a mild and humane system of treatment is more likely to ensure obedience than harsh, overbearing conduct.

One good effect of attention to the foregoing suggestions, would be to check the awful amount of swearing now commonly practised by the lower classes, and, I am sorry to say, not entirely confined to them. The excuse of no meaning in their profane expressions may be pleaded, but will it be accepted as an excuse for the continued violation of the third commandment?

I have not put my name to this rough sketch, lest any persons of my acquaintance might fancy the remarks personal, which I can assure you would not be correct. It is the system I wish to see advocated, and not individuals attacked; and though, to any one taking offence, I might say, with the fabulist,

> "If I lash vice in general fiction,
> Is't I apply, or self conviction?"

I think the maxim of the poet,

> "Men should be taught as tho' you taught them not,
> And things unknown proposed as things forgot,"

is the better plan. VERITAS.

30th Nov. 1846.

TENDERS FOR SEWER.

Tenders delivered on the 4th inst., for 447 feet of second size sewer (4 feet by 2 feet 6 in.), in Hann's-terrace, Chelsea:—

Starkie	£304
E. O. Symons	288
Dethick	285
Gardiner	285
Todd	280
Battenbury	274
Aslett	267
Yeoman	266
Humphreys and Thirst	260

The lowest was accepted.

RAILWAY JOTTINGS.

A new first-class carriage in four compartments, 27 feet long, running on eight wheels and, notwithstanding, said to be superior to the usual carriages, in facility and safety of rounding curves, in lightness of draught, and in absence of oscillation, has been lately constructed by Mr. Booth, the carriage builder to the London and North Western Amalgamated Company. It is adapted for the accommodation of twenty-four passengers, with guards and luggage, costs about 600*l.* and has been already put to use in several journeys to London.——The wires of the electric telegraph are rapidly establishing a wonderful system of communication between points hitherto distant in all senses, and difficult of connection. The Canadas are thus about to be peacably annexed to the United States; and the *time* distance between the metropolis of our own country and its provinces will soon be annihilated. The electrical running to and fro of *knowledge* or intelligence between London, Liverpool, and Manchester, along the London and North-Western line of railway, is to be forthwith accomplished. The wire-nerves are in course of deposition; and, when fully organized, the prolongations from the Euston-square "medulla oblongata," into the encephalic centre at the Royal Exchange, will next be established.——A patent has been taken out by a Mr. Jones, of Chester, for an improvement in the mode of preparing carbon or charcoal as a permanent and brilliant paint for water-proofing and other railway or general purposes. The difficulty of pulverizing the charcoal of wood to a sufficient fineness in the ordinary grinding mills, has been overcome by the removal, under this patent, of the finer particles, in the form of dust, by aid of a stream of air, more or less gentle, according to the fineness requisite.——On Thursday week the roof of a station on the Eastern Counties Line, at Flitton, near Peterborough, fell, in consequence, it is said, of the insufficiency of the foundation, erected near the banks of the river, and in all probability wanting what we have so much recommended, and what in such circumstances is so essential to stability of structure, namely a sufficient cementation with hydraulic lime or Roman cement.——"Much interest," says the *Essex Standard*, "was evinced [during the opening of the Ipswich and Bury line, on in the approach to Stowmarket, the locality of the fearful bogs, of which so much has been written. Nothing is to be seen except a low embankment, not more than four to five feet high, across a swampy marsh; but that something unusual has been overcome is apparent from the great width of the embankment, which, in some places, is more than 100 yards; all laid upon immense layers of faggots, brushwood, and hurdles, crossed and recrossed; strengthened by rows of timber; so that, in fact, the whole forms a huge matwork of earth, bushes, and timber. Upon this, longitudinal timbers, extending the whole length of the bogs, are laid; firmly scarfed and plated together with iron; and, upon these again, the cross sleepers are laid which carry the rails; but which appear stronger, and placed closer together, than usual. So firm indeed, does the road appear, that the rapid passage of the engine and train produced no yielding effect that was visible; and we were assured (and so far as our own judgment went, we felt assured of its correctness), that it is as sound and secure as any part of the line." The method which we pointed out as the one most likely to be successful, namely, that by which the like difficulty was overcome at Chat Moss, on the Liverpool and Manchester line, appears to have been at length successfully carried through in crossing this equally formidable morass.——An embankment across a bog near Allanbridge, on the Scottish Central Railway, has disappeared; in all probability from neglect of the same valuable experience already gained, at so much cost, both at Chat Moss and at Stowmarket.

Wood Pavement.—In order to form a roughened surface for the horses, every alternate course of the wood pavement by the side of the Royal Exchange has been cut down about an inch; the result of which is a jar to the carriages passing over it that much injures them.

KENSINGTON WORKHOUSE COMPETITION.

The cost of carrying out the design ultimately chosen by the guardians, appears like that of the first, greatly to exceed the sum stipulated, 9,000*l.* We have hitherto refrained from alluding to it, because we understood that the architect was of opinion that the quantities had not been taken out correctly, and had obtained permission to examine them, before a decision was come to upon the matter. Being applied to, however, from several quarters for the result of the estimates, we give the highest and lowest with some of the intermediate amounts:—

Nicholson	£17,354
Woods and Wheeler	16,116
Sissons	14,488
Curtis	14,410
Benton	13,836
Cooper and Davis	13,770
Trego	13,722

THREATENED REMOVAL OF WESTMINSTER BRIDGE.

The consternation amongst owners and occupiers in the line of the present unlucky bridge, caused by its threatened removal, as already alluded to, increases every day. *The Civil Engineers' Journal* has the following remarks on the subject:—

"We fear the construction of this new bridge will be most detrimental to existing interests, and cause the greatest inconvenience to the inhabitants of Westminster. It will not only destroy the direct line of thoroughfare from Pimlico, through the Park and Great George-street, over Westminster-bridge, to the Elephant and Castle and the Surrey-roads, but it will be the cause of increasing the traffic through the already over-crowded thoroughfares from Charing-cross to the City, as it is now far nearer and quicker, to go from the Law Courts and Parliament-street over Westminster-bridge to the City, the Brighton and Dover Railways, and ultimately to the new station of the South-Western Railway; and consequently this traffic, if this new bridge be constructed, will be directed along the Strand; and besides, there will be a distance of a mile through Westminster from Vauxhall-bridge to the site of the proposed new bridge, that will be entirely cut off from the Surrey side, excepting by the circuitous route over those two bridges. By a reference to the map of London, it will be seen that if this new bridge be carried over the river at right angles to the shore at Whitehall-place, the end on the Surrey side will almost come in contact with the foot of Hungerford-bridge! Surely the direct communication from Charing-cross over this last bridge is ample accommodation for the public, without intruding another within a stone's throw.

Why the new bridge should be removed from the present site of Westminster-bridge we cannot devise. A new bridge might be constructed on the eastern side of the present bridge, and the latter pulled down when the new one is erected, as was done with Old London Bridge. By removing Westminster-bridge, the only land-view from which a perspective view can be obtained of the new Houses of Parliament, will be lost, and, as we before stated, all the elaborate and minute sculpture and decorations will not be seen. To get a view of the grand façade, we shall be obliged to go in one of the river steamers, and catch a transient glimpse as the vessel passes along.

Can it be supposed that Parliament will sanction such a scheme, to the destruction and despoliation of all the valuable interests connected with the trade and property in Westminster and Lambeth? and ultimately cause another bridge to be constructed, at the expense of the public, somewhere above the new Parliament Houses, which must follow if Westminster-bridge be removed from the present site."

A Statue to Shakspeare from Womankind.—An appeal to women to raise a statue to Shakspeare, their "own especial poet—the laureate of their best qualities—the champion of their dearest rights—and the chief means of indicating and establishing their true social position," is in circulation. It is signed "Mary Cowden Clarke, Craven Hill Cottage, Bayswater."

A POET'S OPINION OF MUNICH.*

The ancient portion of the city of Munich appears to me like an ancient rose-tree, from which new branches shoot out every year; but every branch is a street, every leaf is a palace, a church, or a monument; and every thing appears so new, so fresh, for it has but this moment unfolded itself. * * * Every city, from Rome the eternal, to our own silent Sorõe, has its peculiar character, with which one can be intimate—even attach oneself to; but Munich has something of all places: we know not if we are in the south or the north. I at least felt a disquiet here, a desire to leave it again. Should any one fancy that my description of Munich contains crude and contradictory images, then I have given the most just picture according to the impression that the town has made on me. Every thing here appeared to me to be a contradiction. Here were Catholicism and Protestantism, Grecian art and Bavarian ale. Unity I have not found here: every handsome detail appears to have been taken from its original home and placed in and about old Munich, which is a town like a hundred others in Germany. The Post Office, with its red painted walls and hovering figures, is taken from Pompeii; the New Palace is a copy of the Duke of Tuscany's palace in Florence,—each stone is like that of the other. The Au church, with its stained-glass windows, its colossal, lace-like tower, in which every thread is a huge block of stone, reminds us of St. Stephen's Church in Vienna; whilst the Court Chapel, with its mosaic pictures on a gilt ground, wafts us to Italy. I found but one part in Munich that can be called great and characteristic, and that is Ludvig-street. The buildings here in different styles of architecture blend together in a unity, as the most different flowers form a beautiful garland. The gothic-built University, the Italian palaces, even the garden close by, with its painted piazzas, supply a perfect whole. * * Even the streets and buildings in this new city will not, as yet, attach themselves to each other; the Pinakothek, with its elevated windows in the roof, has, from the spot on which I am standing, the appearance of a large hothouse, or conservatory, and such it is; there, as in the Glyptothek, we wander amongst the most beautiful productions of art, brought together from the four corners of the world. In the Pinakothek are all the varieties of growing plants, and the saloons are equally as gorgeous as the flowers. In the Glyptothek stand the immortal figures by Scopas, Thorwaldsen, and Canova, and the walls are resplendent with colours that will tell posterity of Cornelius, Zimmerman, and Schlotthauer.

* From "A Poet's Bazaar," by Christian Andersen. (Bentley.)

Correspondence.

CONSTRUCTION OF DRAINS.

Sir,—At the time the New Buildings Act was under consideration, I ventured to submit to Lord Lincoln the propriety of a provision, that in all new buildings the drains should be mapped on every lease, or that some indication should be made in that part of the walls under which the drains might pass, as a means of saving future trouble and annoyance to the inmates in searching for the drains, when requiring reparation. It may be considered by short-sighted tradesmen, that a difficulty of this kind, or slovenly construction in the first instance, is good for trade, by creating work; on the contrary, however, it frequently deters employers from indulging in improvements, from a fear of being ill-used by bad work and enormous charges.

I have frequently experienced the necessity of the indications alluded to, in the course of business, but never more so than in two instances, where I have lately been engaged in relieving the premises from the dreadful effluvia arising from badly-constructed drains and the ingress of rats. It would appear improbable to any but the initiated, that houses of the first class, in such neighbourhoods as Hyde-park-square and Brunswick-square, had drains from their water-closets through the basement, and into the sewer, without any "traps," and were laid without cement or mortar,—every joint being open, and so deficient of a proper fall, that the drain just outside the front wall of the house has a subsidence, causing a perfect pond or dip of stagnant soil and water. While such a course of proceeding as this is allowed in buildings for the wealthier class, it is hardly to be expected that the middle and poorer classes can escape from the evils arising from badly-constructed drains. The basements being saturated with putrid moisture, and the foundation-walls carried up with place bricks (half a brick on each side, with the middle filled in with rubbish, as is well known to be the case in much task-work), there can be no wonder that houses fall before their chimneys are carried up to their proper height, more especially when the mortar is composed of one part lime and five, six, and even seven parts of screened mould, found on the premises. It is farcical to ascribe the fall of newly-built houses to the vibratory effect of a few men going up and down the ladder.

I am, Sir, &c., Vincent Yardley.

PATENT ORNAMENTAL TILES.

Sir,—My attention has been called to a letter signed "J. Reed," in your valuable journal, upon the subject of ornamental tiles, and I feel assured that your high sense of justice will induce you to give place to these few lines in your next publication, that a proper interpretation may be put upon it.

Mr. Reed undoubtedly was the patentee of the ornamental tiles to which he refers, but in that patent right he has no longer (as you may infer from the tone of his letter) any interest whatever, having disposed of that interest to the present proprietors, which will account for the uncalled for condemnation of the invention in which he now takes upon himself to indulge; but for what real purpose you may, after this explanation, the more readily imagine.

The design given in your journal is undoubtedly highly ornamental, but is, in fact, in truth, and in principle, the identical tile comprized in his former patent, with some additional embellishment, which additional embellishment the Architectural Tile Company would readily adopt did they consider it would be acceptable to the public: at present they do not.

I avail myself of this opportunity to caution Mr. Reed, that should he venture to make the tiles in question without the license of the parties whom I represent, it will be a direct infringement of their patent right, and will be immediately followed up by legal proceedings.

I am, Sir, &c., J. G. Hughes,
Secretary to the Architectural Tile Company.

Miscellanea.

Sawyers' Strike at Sunderland.—The sawyers of this town have been "on strike" during the last five weeks for an advance of wages. The masters state that the men have no reasonable ground of complaint, as their wages have averaged from 33s. to 35s. per week. This statement is denied by the men in the local papers, who say,—"A sawyer's time is calculated at 62 hours per week, or 10½ working hours for five days, and 9½ hours for Saturday; and the cutting of 200 feet of hard wood is considered a good day's work for those hours; the wages for which have been 7s. for a pair of sawyers, or 3s. 6d. per man per day; which is only 21s. per week, instead of 33s. to 35s." They require that the wages for cutting 200 feet of hard wood should be 8s., which is 4s. per day per man.

Iron Shingles.—We learn that William Beach, of Troy, New York, has invented and patented a mode of using cast-iron plates for covering roofs. They are about 1 foot square, and are made to fit one into another, so as to render the roof water-tight by applying white lead to the joints. It can be afforded at 16 cents the square foot, and comes about half the cost of copper. They weigh three-and-half pounds a square foot. Slate costs 8 cents per square foot.—*Montreal Herald.*

Projected Works.—Contracts have been called for, by advertisement, for the various works necessary in the formation of portions of the North Kent, Lynn and Dereham, Blackburn Junction, and two Shrewsbury lines of railway; for rails, sleepers, and chairs, for a line at Ambergate; for the various works of a meeting-house and alterations at Ackworth; and for a large quantity of cast-iron water-pipes at Liverpool, &c.

Locomotion.—Facilities for travelling, on a novel and extensive plan, are said to be contemplated by the rudimental members of a combination or association of rather an original, go-ahead character, consisting exclusively of proprietors, tenants, and servants, of hotels, in England, France, &c.; whose sphere of operation is to extend, by railway trains, river and ocean steamers, or other requisite conveyance, over great part of Europe; over all or any part of which, by means of the "open sesame" of "a circular note," to the exclusion either of bank notes or mint-money, a passenger may range at will, without the least trouble about the details of his journey;—places by railway and by steamers being secured; fares paid; passports taken out, and inspection superintended; luggage taken care of, passed, and readjusted; all by the sharehold-servants of the various hotels, through which, of course, it is expected he will pass; and where his bills will be settled for him; and more than that, his pocket-money furnished to him;—and all this by "only stating his object," at the point and period of his departure; and lastly, though not leastly, by only "making the necessary deposit of the sum he may require or mean to expend." "Such, as reported," says the *Daily News*, "are the outlines of an undertaking by which a system of paper-values promises to be vastly extended (not introduced) over great part of Europe; where, upon the lesser scale of bank circular notes, it indeed already circulates; without offering, however, anything like the accommodation, or being available for the uses and objects here held out." This ingenious system of serving the public, or, as it may be, of plucking them as they go, or rather as they are sent, like ticketed parcels, along the line of their respective destinations, only requires, to render it perfect and complete, the adoption of Douglas Jerrold's suggestion, that "in case of bullion becoming scarce, the great railway companies should be allowed to issue paper money, or 'conveyance notes,' in which they would pay all their servants, and in which the public would pay them, instead of in cash, for the conveyance of passengers and goods." The universal adoption of a floating-rag-capital-system of steam conveyance, such as this, in "running to and fro" throughout the world, would form rather a curious *medium* between the Iron Age and the Age of Gold.

Street Cellar-plates.—A correspondent of the *Morning Herald* draws attention to a perpetually recurring source of complaint; in the imperfect state of the iron-plates over coal cellars beneath the pavement, and the neglect of fastening them down inside, even when the hooks are not worn off, or the outside rivets destroyed by friction, as many of them are. The blacksmiths might reap a little harvest in repairing jobs of this description, while ensuring the public safety both against broken limbs and thievish children.

Scarcity of Workmen at Newfoundland.—The Newfoundland papers complain of the inadequate supply of mechanical skill in the island, and the consequent high rate of wages. Many of the artisans employed were obtaining 8s. 6d. to 10s. per diem, and they very often, it is stated, make a day and a half out of 24 hours. Carpenters and masons were most in requisition. The price of building materials has considerably advanced, pine lumber selling for *5l.* to *6l.* per thousand, and bricks at 50s. to 60s.

Sale of Mahogany.—At a late sale of mahogany and other fancy woods (2,203 logs, principally Honduras and St. Domingo, with 438 planks of rosewood), the biddings were rather brisk. Of the Honduras, 432 logs were sold by private contract at 5½d., 282 (by auction), averaged 5 13—32d., 204 averaged 5 1-32d., 142 6 5-12d., and 17 logs 6½d. per foot; of St. Domingo, 100 logs sold at 6 13—16d., and 440 logs at 6¼d. per foot; of Cuba, 154 logs brought 6¾d. per foot.

Coroner's Inquests on the Causes of Fires.—The revival, in the metropolis, of the good old custom of instituting judicial inquests on the causes of fires, has led to the adoption of measures, at Liverpool, for the re-establishment of the same practice. A resolution to this effect was unanimously carried in the Council last week; when it was stated by Mr. Horsfall, who moved the resolution, that during the last five years, a million of money has been consumed in fires at Liverpool alone.

DATE OF FOREIGN CATHEDRALS. — Mr. Lecointre-Dupont, in a letter read at a committee meeting of the British Archæological Association, says :—"You know the difference of opinion that exists among the Norman antiquaries on the date of certain religious edifices of the middle ages, particularly of the cathedrals of Coutances and Séez, of the church of Mortain, and, out of Normandy, of the cathedral of Angers. Some, founding their opinion on historical documents, carry back the construction of these buildings, in which the ogive prevails, to the 11th century; others, with your countryman Gally Knight, assert that the dates furnished by these documents apply to churches which preceded the present buildings, the architecture of which denotes, in the most certain manner, works of the 13th century. A recent discovery has furnished an entire confirmation of the latter opinion, with regard to the cathedral of Séez. A manuscript of the bishopric of Séez gives the epitaph of Bishop Jean de Bernières, who died on Holy Thursday, 1294, and was buried in the choir of the cathedral: among the titles given him in this epitaph, is that of *hujus loci edificator*."

MEETINGS OF SCIENTIFIC BODIES

During the ensuing Week.

MONDAY, Dec. 14.—British Architects, 16, Grosvenor-street, 8 P.M.

WEDNESDAY, 16.—Society of Arts, Adelphi, 8 P.M.

THURSDAY, 17.—Royal Society, Somerset House 8½ P.M.; Antiquaries, Somerset House, 8 P.M.

TO CORRESPONDENTS.

"*Good* v. *Parry*."—The information forwarded shall be considered.

"*A Traveller*."—Pamphlet shall be left at the office on Monday.

"*Zinc*."—A method of cleaning the files used in zinc-work (from the filings of zinc and solder), is asked for.

"*Observer*."—We cannot assign an invention on anonymous information.

"*Subscriber*."—We are seeking an opportunity to look at the window in question.

"*J. D. P.*"—We cannot afford space.

"*L. F. M.*"—Letter was sent.

"*G. W.*"—Thanks. They shall be looked to.

"*Quip*."—Out of print.

"*G. L. T.*"—Shall appear.

"*Reader of the Builder*." — Suggestion shall be considered.

"*X. Y. Z.*"—Finden's closets may be obtained at 190½, High Holborn.

"*X. X. X.*"—If M. has never paid for that portion of the wall he has now used, he is, apparently, liable for it.

Received.—"W. V. P.," "T. P.," "W. C.," "T. P. W.," "A Goth," "G. P.," "A Builder and Subscriber," "H. G.," "Thos. Cozens," "Health of London Association."

TO PROVINCIAL READERS.—In reply to complaints of the irregular delivery of THE BUILDER in provincial towns, we beg leave to state that it is invariably published by seven o'clock on Friday morning; and that the irregularity complained of rests entirely with the parties through whom it is obtained.

ADVERTISEMENTS.

JOSEPH FENN, 105, Newgate Street, London, Manufacturer of Turning Lathes, Flatting Mills, Stocks and Dies, Circular and other Saws, Files, Tools, and Materials for Engineers, Millwrights, Die Sinkers, Coach Makers, Locksmiths, Lamp Makers, Pianoforte Makers, Plumbers, Wood and Metal Turners, Gun Makers, Engravers, Print Cutters, Watch and Clock Makers, Lapidaries, Jewellers, Gold and Silversmiths, Saddlers, Curriers, Dentists, Philosophical and Mathematical Instrument Makers, Carpenters, &c.

Amateur mechanics and others can be supplied with every description of Mechanical Apparatus, viz. :—Wheels and Pinions, Racks, &c. &c. Sets of Mining Tools, Sets of Tools and prepared Wood for Wood Engraving. TOOL-CHESTS FITTED UP COMPLETE. Cutlery of the finest quality. Horticultural Tools, Ironmongery of every description. Brass, copper, steel, zinc, &c., in sheet, bar, and wire; Wholesale, Retail, and for Exportation. Railways supplied on the best terms.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

Little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

A. SMITH, 69, Princes-street, Leicester-square, London.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7d.	9d.	1s.	1s. 6d.	2s. per 1000.

Best Sheet Floor Brads 15s. 6d. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch 32s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.
Self-acting Kitchen Ranges with Oven and Back Boiler.
Wrought Bars and Bright Fittings.

3 ft., 3l. 3s.	3 ft. 6 in., 3l. 12s. 6d.	4 ft., 4l.

Lists of Prices had on application at the Warehouse; if by letter prepaid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY & Co., WHOLESALE IRONMONGERS, and MANUFACTURERS of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen-Ranges, with back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
3l. 6s.	3l. 13s.	3l. 16s.	4l.	4l. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
5l.	5l. 15s.	6l. 5s.	6l. 10s.	7l.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFARTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

IMPORTANT TO ARCHITECTS, BUILDERS, AND CABINET MAKERS.

LEA'S PATENT DOUBLE-ACTION BOLT, combining Cheapness, Facility of Action, and Security; adapted for the Strongest Folding-doors as well as the most Elegant Chiffonier.

Agent, E. PARKS, 140, Fleet-street.

Best Patent Cut Clasp.

6d.	7d.	8d.	1s.	1s. 6d.	2s. 3d.
3d.	4d.	6d.	8d.	10d.	20d.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s.
1	2	3	4	5	6

Every description of Ironmongery equally low.

SIFTED GRAVEL.—A large quantity of Sifted Gravel FOR SALE at London-street, Paddington, close by the Great Western Terminus.—Apply to Mr. G. BIRD, builder, 38, Edgware-road.

ARCHITECTURAL SUBJECTS (Outlines) coloured for competition or exhibition, and embellished with landscape, &c. Buildings, Portraits, and Views of every description, lithographed in a superior manner, by GEORGE CHILDS, 12, Amwell-street, Pentonville.

THE CHRONOMETRIC GOVERNOR invented by Messrs. SIEMENS, of Berlin, patented and supplied by JOSEPH WOODS and Co., Barge-yard-chambers, Bucklersbury, London, has now been in constant use, for regulating the supply of power for grinding corn, and moving machinery of other kinds, for a considerable time, and it is found to succeed perfectly in producing an instantaneous and automatic adjustment of the supply of power, without allowing any variation of speed; the result of which enables all manufacturers, dependent on regularity of the velocity for a maximum result, to attain a greater uniformity in, and increased quantity of, the manufactured article produced in a given time, without increasing the expenditure of power. This effect in grinding corn amounts to an increase of 10 per cent.

These instruments may be applied to existing steam-engines, water-wheels, &c., without interruption to their constant work, and at an expense very much below the value of the advantages obtained.

Testimonials may be seen, and every information obtained, at the office of the Patentees, and cards for admission to the numerous flour-mills, saw-mills, and other works in different parts of the country, where the Chronometric Governor is employed, on application to them.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS.

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee having fixed a great number of his shutters in London, and given universal satisfaction, can confidently recommend them both for security and durability, the edges being sheathed with Iron. Their construction is so simple that the largest establishment can be opened or closed with the greatest possible ease without the use of machinery. Their superiority over other revolving shutters consists in their great strength and stiffness, being without metal hinges, consequently cannot rust, buckle, be strained, or get out of order, and are safer. Persons dissatisfied with the patent rising gear now used for iron shutters can have it removed, and the shutters made to draw up in any part of the premises with the slightest exertion, without machinery, thereby avoiding the unpleasant use of oil.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or ornamental, handsomely Engraved, Moulded, Stall-board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house.

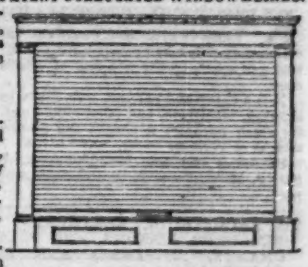
Contracts taken in Town or Country.

Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.—Patent Panelled Iron Safety Shutters. PATENT OUTSIDE SHUTTER BLINDS.—PATENT CORRUGATED WINDOW BLINDS.



The attention of Architects, Builders, and Blind Makers is requested to the IMPORTANT PATENTED IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD & Co. 115, Old Street, London.

The great importance of strength and stiffness in the Laths of REVOLVING IRON SHUTTERS, when required for security, is so obvious, that it is only necessary to point out the fact, that the Patent Convex Laths are twelve times stronger than the ordinary flat Laths (as shewn by the engravings and description), to insure their general adoption.

The Patentees invite attention to their greatly improved Gearing for Raising and Lowering their patent Shutters, which, possessing all the advantages of the endless screw (worm and wheel), cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet wheel; it is at once simple and THOROUGHLY EFFECTIVE, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose, thus rendering their patent Revolving Shutters the SAFEST and MOST EFFICIENT in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position the great additional strength of the Convex Laths renders them peculiarly suitable.

REVOLVING IRON SHUTTERS, MADE OF THE COMMON FLAT LATHS, at a considerable reduction of price.

CAUTION.—The Patentees beg to caution all persons against Making or Using RENT or CONVEX LATHS for REVOLVING IRON SAFETY SHUTTERS (whether winding horizontally or vertically), so as to obtain increased strength and stiffness, as they thereby render themselves liable to legal proceedings for infringing this patent.

Engravings and Prospectuses will be forwarded on application.

DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL BOARD PLATES, &c.

Patentees and Manufacturers, R. HOWARD and Co., London.

To Engineers and Architects, and as an Elegant Present to a Lady, as well as a most Convenient Pocket Appendage.

TO all those who find a Difficulty in the Use of STEEL PENS, and who wish to avoid the loss of time occasioned by the frequent mending of Quills, STEPHENS'S PERPETUAL PEN, made of Gold, with points which never wear or alter, offers a most convenient substitute, as Ink which oxydises and lingers in the steel pen, flows from this with precisely the same facility as from a Quill, and the Pen never requires mending. Price 15s. It may be used with a common holder. With an ever-pointed Silver Pencil Case, with Leads, 17s.

Sold by the proprietor, HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London. On application, by letter, this Pen will be sent, per post, to any part of the kingdom.

TO ARCHITECTS, BUILDERS, &c.

GAS LAMPS, GAS BRACKETS, GAS PILLARS, BURNERS, &c. &c. In calling the attention of architects, builders, &c., to their assortment of Gas Furniture in general, C. DEBAUFER and SON respectfully announce they continue to fit up premises of every description on the most approved and newest system of gas fitting. An experience of forty years justifies us in making the above assertion.—P.S. Country orders attended to with dispatch.—10 and 11, Creed-lane, St. Paul's.

FIRE GOODS.

W. ALLDER, FALCON CEMENT WHARF, 80, Bankside, has always on hand for Sale a Large Assortment of Fire Goods, Welch, Stourbridge, and Newcastle, at Lowest Prices. Also Roman Cement; Pots, both Red and Cement; Bricks, Tiles, Hair, and Laths.

TO PLASTERERS.

LIME FOR PLASTERING, that may be used immediately without risk of blistering, manufactured expressly for Plastering, and sold at the usual price, at FORREST'S WHARF, Earl-street, Blackfriars. Sheds for the slacking and mixing of lime. Accommodation for loading and landing bricks, sand, ballast, &c.

RAWLINGS'S LIME WHARF.—TO BUILDERS, &c.

BANGOR WHARF, KING'S ROAD BRIDGE, CAMDEN NEW TOWN. Builders, &c. are respectfully informed, that they can have Blue Lias, Grey Stone, and Chalk Lime, Roman Cement, Thames Ballast, Sand, Tiles, Cement Pots, and all kinds of Welch goods, of the best quality at lowest terms, being the nearest Lime Wharf to the North of London.

FIRE BRICKS, Stourbridge, Welsh, and Newcastle; also Lumps, Tiles, and Clays, a large Stock of the best made Goods are selling at very reduced prices (a great reduction having taken place in freights) at WARD'S Honduras Wharf, Bankside. Windsor Nonsuch, and Town-made Oven Tiles, PP.N. and Circular Red Fire Bricks, Country Pan, Plain and Ridge Tiles, Paving Bricks, Corn Drying and Patent Malting Tiles.—Country Builders promptly supplied. Rough River Ballast for Concrete and Thames Sand, above and below bridge, by freights or loads. Prepared Sand for Plastering.

CHEAP ROMAN CEMENT is sold in Casks that will not contain five bushels, even by some manufacturers of a very respectable name. Consumers should see that the standard size cask is 29 inches long by 17½ across the head, outside measure. Any workman with a rule in his pocket can ascertain this.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and undestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Milbank-street, Westminster, and Seel-street, Liverpool.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

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CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

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A LARGE QUANTITY of PLATE GLASS of various sizes, from four inches wide to thirty inches, to be sold in job lots, at very reduced prices, in consequence of the agency being resigned.—Apply at 26, Soho-square.

SASHES primed, glazed, and sent to any part of London at 5d. per foot.

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4	by	3	and under	5	by	3	1d.
5	..	3	,,	6	..	4	1¼
6	..	4	,,	7	..	5	1½
7	..	5	,,	9	..	7	2
9	..	7	,,	10	..	8	2¼
10	..	8	,,	14	..	10	2½
14	..	10	and under	2 feet			3

Crates averaging 50 inches:—

ccc	18 table	each	40s.
cc	18		47
Fourths	18 table		65
Thirds	18 table		78

Foreign Sheet Glass, 3rds, superior to English, in 200 feet boxes, about 16 oz. 3d. per foot; best quality, Sheet Glass, about 16 to 18 oz., in 100 feet cases, 8d. per foot: this is a most superior article, nearly approaching to plate glass.

Water-closets, Pumps, and all kinds of brass work. Sash glasing, 4½d. per foot.—Address THOMAS MILLINGTON, 87, Bishopsgate-street, Without, London.

HERRING'S PATENT SAFETY WINDOWS.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it, repay the cost every two years, abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sun-blind, all simple, cheap, and effective.—Apply for licenses and to inspect its real merits, to Herring's Patent Steam Bed-feather Factory, 14, Kingsgate-street, London.

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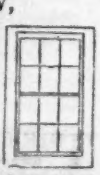
Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.



Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.

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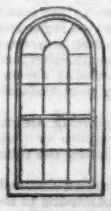

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiner's work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany Work done in the very best manner; French Polished, and carefully Packed for the Country.—A full list of prices forwarded by return of post to any part of the country.

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ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ½ inch to 1¼ inch thick.

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Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.

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A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

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JOHN NEWSON having now completed his machinery for preparing floor-boards with the smallest possible waste, and as cheap as heretofore, is enabled also now to complete every kind of sawing and grooving at the same mills. A good assortment of planks, deals, battens, cut boards, match boarding and mouldings; oak and deal sash sills, mahogany, oak, birch, and beech, in planks and boards, veneers, &c., all dry and fit for immediate use, being well covered by extensive drying sheds.—Also single double wine and pantile laths for sale at his Timber Yard, Grosvenor-row, Pimlico.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

T. ADAMS (from Byron and Co.), late S. Dare, Mahogany, Timber, and Deal Yard, New-road, Bermondsey, near Bricklayers' Arms, has always in stock mahogany, cedar, wainscot, elm, beech, oak, &c. Pantile oak and fir laths, scaffold poles, putlogs, &c. Wheelwright's goods, veneers, cut deals and scantling of every dimension. Also a large assortment of SEASONED FLOORING, MATCH BOARDING FIT FOR immediate use, and MOULDINGS prepared by machinery, all at reduced prices.

MUIR'S PATENT PLANING MACHINERY.

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TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

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THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of material are so certainly obtained. In shooting, or groving and tongueing a board (although curved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

G. ELL'S ADJUSTABLE SCAFFOLD, OBSERVATORY, or FIRE ESCAPE, Models of which are at the repositories of the Royal Society of Arts, Royal Polytechnic Institution, and at the manufactory, Nos. 3 and 6, Tottenham-court New-road, and St. George's-circus, Waterloo-bridge-road.

This Machine consists of a series of hollow rectangular frames, sliding one within another, after the manner of the tubes of a telescope, is applicable to a variety of purposes, but is especially adapted to that of Land Surveying, ornamenting the walls and ceilings of lofty buildings, hanging chandeliers, fire escape, or for elevating persons for any purpose whatever, as it may be adjusted to any height within its range, and supports itself with safety, independently of any attachment to the walls, and will be found the easiest and best method yet used for cleaning and decorating the interiors of lofty buildings, well staircases, &c.

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